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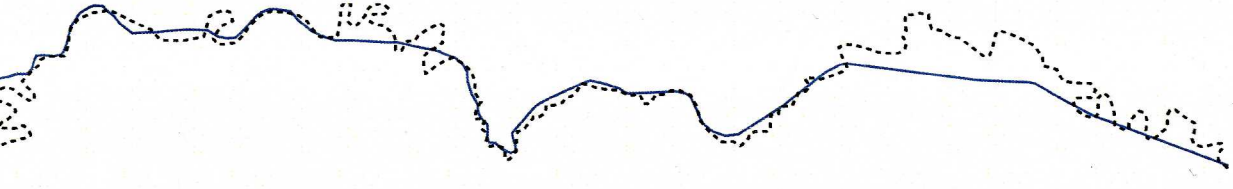
Connective Ecology: Reclaiming the Postindustrial Urban Landscape

Thomas Smith



Connective Ecology
Reclaiming the Postindustrial Urban Landscape

Thomas Smith

Thesis Prep Fall 2006

Prof. L. Brown

Prof. T. Goode

contents

thesis statement + contention

The rigid separation of modern urban planning has suppressed the potentials of urban landscapes. As a field of events, the urban surface can respond to and influence complex spatial, cultural, and socio-economic forces affecting particular sites. Landscape and urbanism depend on and create connective processes and networks. They are infrastructures. A design must consider multiple scales of the region, city, and specific urban spaces to understand how all processes are affected.

The postindustrial city presents new opportunities for overlooked sites as well as for the recovery and reclamation of urban ecological systems, such as waterways. The complexities and similarities of landscape and ecology determine open-ended, intersecting, and hybrid urban conditions. Architecture sets the stage for events to occur. The process of landscape urbanism enables an architectural project to look at larger scale physical, social, cultural, environmental, economic and political factors of the city. Diagramming and mapping existing physical and social conditions, responding to actual reality instead of a detached abstract composition, will make a architecture capable of adapting and contributing to the urban environment.

This thesis contends that by considering the urban landscape as an evolving, interconnected network, much like an ecosystem, architecture can create flexible, accessible public space as part of a larger scale system which affects as well as responds to specific physical and social forces of the contemporary postindustrial city.

'Landscape' is such a comprehensive phenomenon.
- Christian Norburg-Schulz

Learning from the landscape is a way of being revolutionary for an architect.
- Reyner Banham

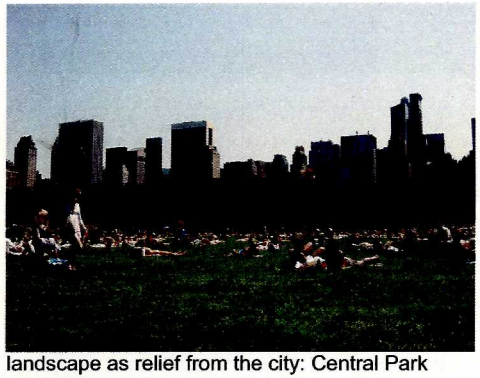
One should never impose on the site but rather expose the site.
- Robert Smithson

Because of its bigness – in both scale and scope – landscape serves as a metaphor for inclusive multiplicity and pluralism, as in a kind of synthetic 'overview' that enables differences to play themselves out....a synthetic and strategic art form, one that aligns diverse and competing forces (social constituencies, political desires, ecological processes, program demands, etc.) into newly liberating and interactive alliances.
- James Corner

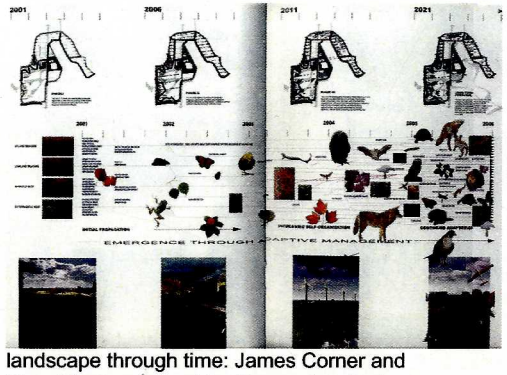
Architects need to be more political.
- Richard Ingersoll

Architects invent nothing....They work continually with models which they transform in response to the problems they encounter.
- Alvaro Siza

Landscape has become both the lens through which the contemporary city is represented and the medium through which it is constructed.
- Charles Waldheim



landscape as relief from the city: Central Park



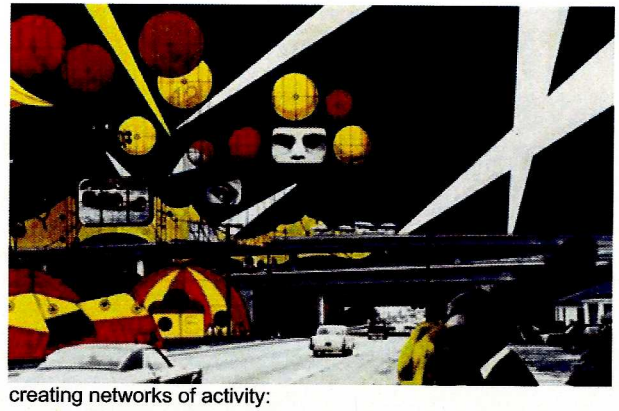
landscape through time: James Corner and Stan Allen's proposal for Downsview Park

landscape urbanism

Landscape urbanism is a hybrid condition where 'landscape' and 'urbanism' are dependent on each other. This relationship between two terms refers to the bipolarity of Chinese *yin* and *yang* which can be explained only by reference to the other.[1] Each polar relation requires the other as a necessary condition for being, where the two complements make a totality: *yin* is becoming *yang*, and vice versa. Binary thinking of opposing conditions is a detrimental, outmoded way of thinking, dependent on Western conceptions of order, geometry, number, and ideal.[2] Some examples include: figure/ground, architecture/landscape, object/space, and culture/nature. This duality exists in traditional thought of landscape and cities, seen through nineteenth century views of opposition and difference.[3] Natural is against artificial, nature opposes what is human made. A natural landscape was a relief from – not part of – urban life. Separating the city from landscape led to urban control over natural processes, such as channeling a river. The very process of urbanization shapes urban relationships.

Landscape urbanism considers processes that determine urban form and how they work in space and time, such as environmental processes. The complexity of interactions between elements in ecological systems gradually evolves and changes over time.[4] They are provisional and temporal. In ecology, structure and order can exist in something apparently random or chaotic. Shifting between multiple scales of the site, city and region is necessary to understand how these networks operate. Scale enables approaching the sublime, something too large or complex to be understood as a single totality.[5] Like an ecosystem, landscape urbanism adapts and responds to changes through time as a network.

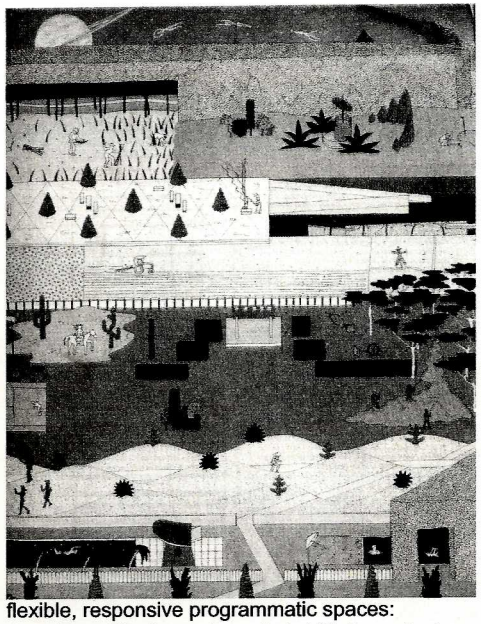
creating surfaces:
Superstudio, *Supersurface*, 1971



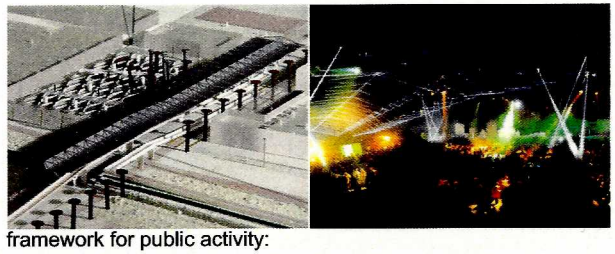
creating networks of activity:
Archigram, *Instant City*, 1970

Landscape connects and organizes objects and spaces as well as the dynamic processes and events that move through them. In a city, the active surface structures conditions for new relationships and interactions. Shifting processes through and across the urban field create a horizontal surface, the ground plane or field of action.[6] This field is made up of surfaces on all scales, from the sidewalk and the street to the network of infrastructures. Cities of the late twentieth century are distinguished by horizontal extension which enables thickening and intensifying experience at specific moments in the urban field.[7] Landscape urbanism works as a structure that organizes and supports a range of activities in the city. Connection of elements to one another is the foundation of urban life. Dynamic and responsive, the surface unfolds events in time.

By valuing operation over composition, how things work instead of how they look, the urban site becomes a flexible stage for programmatic events that evolve to anticipate change and open-endedness. This allows a landscape of imagination and possibility. Infrastructure works to construct the site itself, creating conditions for future events outside control that evolve over time.[8] With a responsive framework of design, anything is possible. The 'irrigation of territories with potential,' especially in overlooked sites, encourages the staging of uncertainty and enabling fields that accommodate urban processes.[9] To stage these processes, the design must respond to the specific forces acting on the site. Considering economic, social, political factors and ecology is integral to the design process.



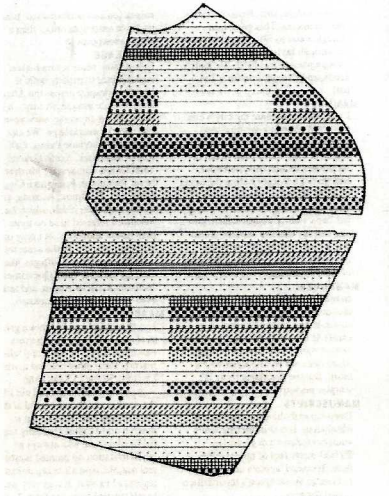
flexible, responsive programmatic spaces:
OMA/Rem Koolhaas, Parc de la Villette project



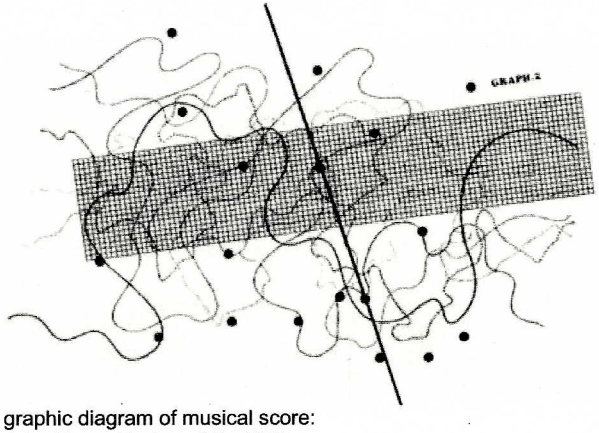
framework for public activity:
James Corner and Stan Allen, Downsview Park project

"It is now recognized that people have multiple identities, then the same point can be made in relation to places." – Doreen Massey

Landscape urbanism depends on the collective imagination of the city for creative possibilities to make public space. Public spaces are the containers of memory and desire, and also places for geographic and social relationships.[10] They are essential to a city. The failure of twentieth century urban planning resulted from the lack of imaginative urban spaces, focusing instead on rationalized order and economic growth. To Lewis Mumford, the city is a "theater of social action." Art, politics, education, commerce all serve to make the "social drama... more richly significant, as a stage set intensifies and underlines the gestures of the actors and the action of the play."[11] Social action is a product of spatial identity. Identity is grounded in space in ways that are geographically and historically specific. Abstract space becomes specific place. A place can be defined as relational, historical and concerned with identity, and can never be completely erased.[12] Neglected urban sites reflect the historical marginalization that has led to the construction of the existing environment. The history of a space is the history of its landscape. Henri Lefebvre wrote of space as the "encounter, assembly, simultaneity...of everything that is produced by nature or by society, either through their cooperation or through their conflicts."[13] The democracy of an urban landscape accommodates all social groups. True public space is having democratic control over that space and the willingness to allow a space to host sometimes contentious publics.[14] People are the producers of their own cultures as well as their own public spaces.



bands of program as project diagram:
OMA/Rem Koolhaas, Parc de la Villette

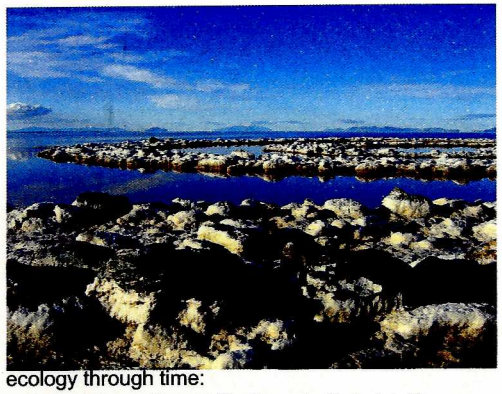


graphic diagram of musical score:
John Cage, *Fontana Mix*, 1958

Landscape urbanism combines the views and methods of architecture, landscape architecture and urban planning to design large scale networks and connections which respond directly to the forces of a site. Architecture's transgression into landscape has borrowed the qualities, operations and methods of landscape practice. Instead of traditional plans and sections, diagrammatic representation generates landscape projects and embodies the project: the project is the diagram.[15] Mapping and diagramming all issues in the urban environment requires broad thinking across multiple scales. Zooming in and out reveals the specificities of a place. Responding to these specificities enables a design to create dynamic spaces that are flexible and adaptive to accommodate contemporary behavioral patterns and exchanges.[16] Techniques of mapping and diagramming anticipate identifiable occupations of territory. This could range from revitalizing low income areas to preserving natural resources.

Landscape urbanism creates relational systems across multiple scales and sizes. It situates parts in relation to the whole. It analyzes physical as well as social conditions. Landscape urbanism is about being and becoming, permanence and transience. It attempts to create environmental and social sustainability. As a network of interaction, cities and their infrastructures are ecological.

Material practices (ecology or engineering for example) are concerned with the behavior of large scale assemblages over time....with *performance*: energy inputs and outputs, the calibration of force and resistance. They are less concerned with what things look like and more concerned with what they can do.
- Stan Allen



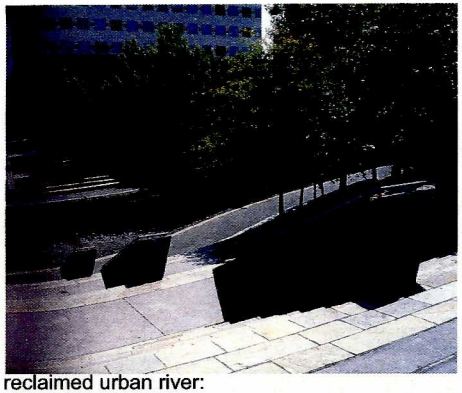
ecology through time:
salt crystals on Robert Smithson's *Spiral Jetty*

plant rhizome
a growing, spreading network

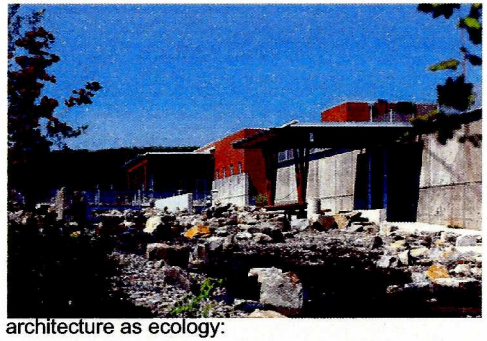
urban ecology

Ecology is the study of relationships between all living things and their environments, derived from the Greek word *oikos* meaning "house". Urban ecology studies the relationships between life processes in the city. Considering ecological systems as "nature" implies a separation from the city. In fact, natural ecological processes are essential to the urban landscape and respond directly to changes in the city. Life systems are bound into dynamic relationships. In an ecosystem, just as in a landscape, individual elements acting across broad fields produce incremental and cumulative effects that continually evolve and shape an environment over time.[17] Landscapes and built forms are not static, but instead responsive and temporal. An ecosystem is a complex network; so is an urban landscape. Apparently incoherent, random situations are highly structured with particular geometrical and spatial orders. Urban ecologies become neglected when people fail to understand their complexity. With modern development, traditional collection and usage of water disappeared from daily life; nature was out of sight and expelled.[18]

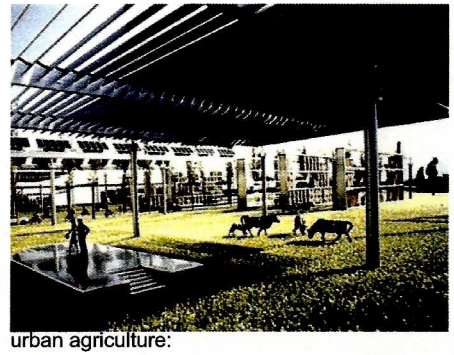
Waterways are the ecosystems most often found in, and damaged by, urban environments. Human construction has greatly modified urban water processes. Stormwater runoff from hard surfaces creates a high volume of moving dirt, trash, pollutants and waste from urban surfaces into drains which feed into the urban creek or river. This water movement impacts urban geomorphology, the modification of surrounding landforms, by causing erosion and soil weathering.[19] Warmer water from runoff and sewage limits the vegetation and fish that can survive. Contemporary urban waterways are more like open air sewers than functioning ecosystems.



reclaimed urban river:
George Hargreaves, Guadalupe River, San Jose



architecture as ecology:
Willamette River water treatment plant, Miller-Hull



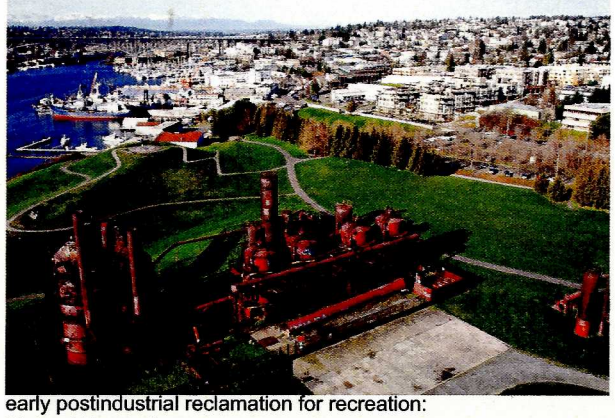
urban agriculture:
Agronica, Eindhoven, Netherlands, A. Branzi

Reclaiming urban water systems involves processes through space and time. Water, as a fluid, is always changing and always in motion. The spatial and temporal aspects of water contrast with the permanence of urban structures. Ecological processes such as erosion, succession, and water cycles can inform architectural design by acting as landscape generators. By turning channelized urban streams into functioning hybrid systems for water management, ecological enhancement and public space, design can combine water management and open social space.[20] These natural processes and their distinct landscapes within the city link ecology, design and urban planning. Lewis Mumford described this integration of the city as composed from human processes intricately woven with natural processes. [21] Ecology is an urban culture. The whole city as a landscape includes visible elements and invisible ones, from natural landscape elements to human infrastructures of supply/removal networks and industry.[22] In this way, cities and infrastructures are complex organisms, just as "ecological" as forests and rivers.

Bringing ecological systems back as a regular part of urban life can be the only contact with "nature" for city residents. In addition to restoring urban waterways, another proposal is the insertion of agriculture into urban situations. This would provide city residents with educational and recreational opportunities. By becoming urban farmers and gardeners, citizens can strengthen civic relationships and promote the synergy of built fabric and a restored ecosystem. [23] Urban gardens establish a sense of belonging to and responsibility for urban space. Ironically, agriculture, that which was not the city, acts as an agent to create civic identity, making a condition of agri-civism.[24]

The role of ecology can provoke architecture as well providing a way of rethinking it. Engaging ecological systems at multiple scales can generate unexpected spatial characteristics emerging from the interaction and interference among systems.[25] In this way, urban ecology is critical to understand the meaning and reclamation of postindustrial sites.

Ecology and industry are not one-way streets, rather they should be crossroads. Art can help to provide the needed dialectic between them. I am convinced that the future is lost somewhere out in the trash heaps on the non-historic past.
- Robert Smithson



early postindustrial reclamation for recreation:
Richard Haag, Gas Works Park, Seattle,1960s

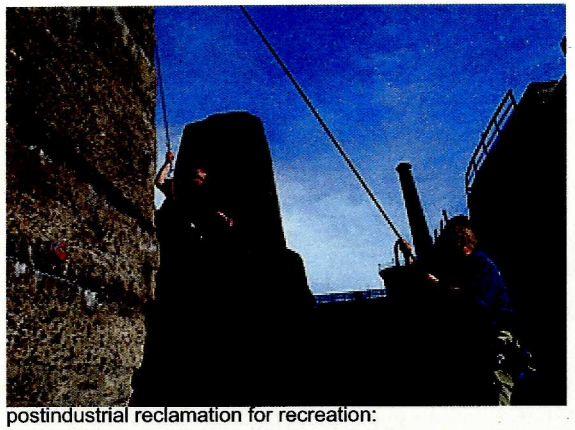
the industrial landscape:
Robert Smithson, *Fountain*, 1967

postindustrial

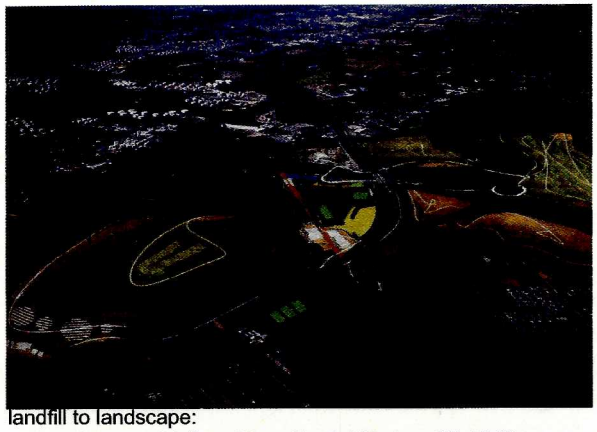
In the United States, postindustrial is generally thought of as the period when manufacturing jobs began to decrease and move away after World War II, in favor of service businesses. The closure of industrial manufacturing centers led to an economic decline that most American cities have still not recovered from. The cumulative effects of deindustrialization involve issues of relocation, environmental degradation, politics, and space.[26]

Deindustrialization was ambiguous and unclear , different than any other economic shift. However, industrial production and industrial-related land alterations have not stopped, they have just shifted away from manufacturing production toward services.[27] The declining industry left visible remains on the landscape. Designers confront the legacy of contaminated and derelict sites left behind by past industrial activity.[28]

A process of economic relocation, deindustrialization results in unemployment and environmental degradation through pollution and land contamination. The shift of investment and technology to outside of urban areas compounded deindustrialization and led to suburbanization. This unexpected, uneven metropolitan growth quickly changed the identity of an urban community, leaving marginalized populations behind in the inner city.



postindustrial reclamation for recreation:
Peter Latz, Duisburg Nord, Germany, 1990s



landfill to landscape:
James Corner and Stan Allen, Fresh Kills Landfill, NYC

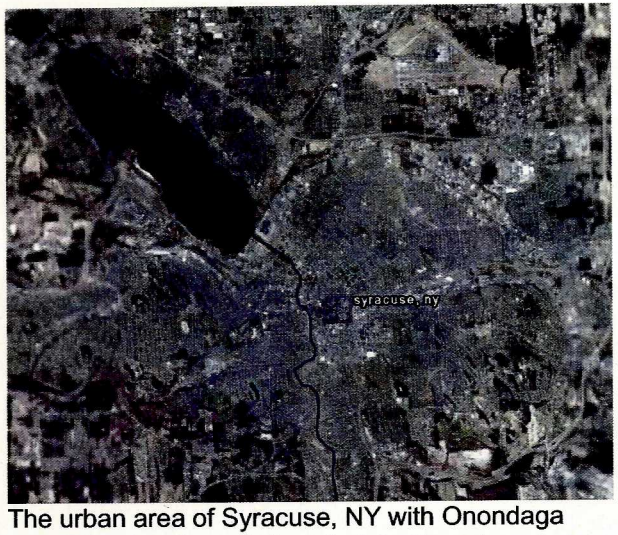
Fresh Kills Landfill, NYC

Contemporary American cities want to change their images and identities from industrial to postindustrial. The meaning of industrial has negative connotations associated with economic decline, pollution, poor social structure. Industrial cities are about the past, oldness, work, and production.[29] Conversely, postindustrial suggests positive imagery of economic growth, cleanliness, technology, and social progressiveness. Postindustrial cities focus on the new, the future, consumption, exchange, and leisure. The city as a place for recreation and consumption hopes to attract people and investment. The new image of a postindustrial city also involves a renegotiation with its physical environment. Industrial cities used their waterways as part of the process of production. Postindustrial cities use them as recreation and visual resources, taking responsibility to clean them up.[30]

The city as a diverse, inspiring, dignified place to live is often overlooked in the non-commercial alternatives to a typical postindustrial city image.[31] Discussions of attracting economic investment are partial, selective, and biased, which have consequences for different parts of the population. Resulting gentrification, the lack of lower income housing, employment, and social services do not become priorities. Certain urban issues, and residents, are ignored.

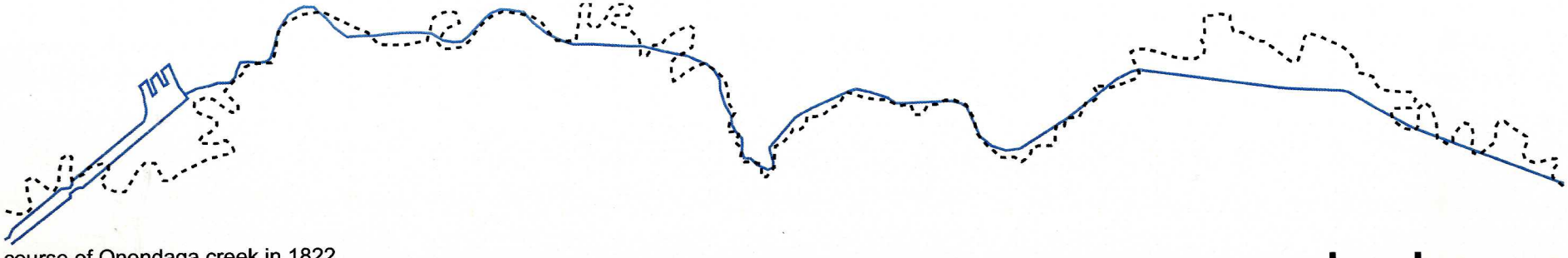
Deindustrialization of American cities created social, economic, and physical changes in the urban landscape. Leftover spaces and abandoned sites create the possibility for new, unexpected urban landscapes in the postindustrial city.

site



The urban area of Syracuse, NY with Onondaga Creek flowing through the city into Onondaga Lake.

The city of Syracuse, New York has an example of a potential connective ecology: the urban landscape of Onondaga Creek. This waterway is a dynamic, connective system that runs through the entire city. Most cities are located near larger rivers, but the creek is a smaller scale waterway. As a long, continuous network of urban space in middle of urban density, only parts of the creek are visible at certain points. It is difficult to visually understand the larger creek as part of its larger scale watershed system. Urban land alterations through history have changed the immediate landscape of Onondaga Creek and have limited access to the creek itself. Urbanization has also affected the creek ecology. The physical and social identity of the creek has changed in the postindustrial city, but little has been done to improve its conditions. Onondaga Creek remains a landscape of potential. Design proposals will result from analyzing the urban landscape, ecology, and postindustrial identity of Onondaga Creek.



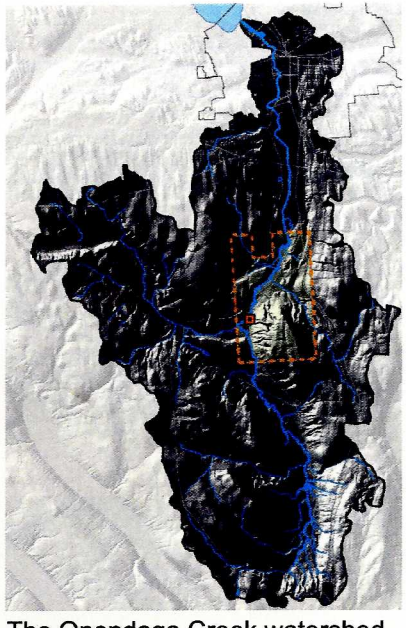
course of Onondaga creek in 1822
(dashed line) compared to 1926 (blue)

landscape

map of original Onondaga lands in New York State, covering Syracuse.

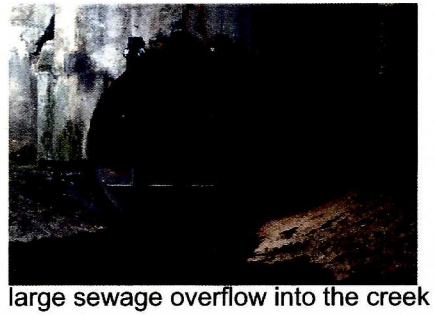
The Onondaga Haudenosaunee (Iroquois) Native Americans were the first people to live in the regional landscape of Central New York. They occupied an area from the St. Lawrence River in Canada down to Pennsylvania for thousands of years. The Haudenosaunee landscape supported housing, agriculture, transportation, and waste management for generations of clans and tribes with little environmental impact. Landscape was part of their daily lives. Onondaga Creek and its watershed, including Onondaga Lake, is a significant part of Haudenosaunee culture. The Native Americans used the waters to survive off fish and other wildlife, drinking water, and for performing cultural rituals. Once Europeans arrived in the late 1600s, the Haudenosaunee wrote several treaties to maintain their sovereignty and land rights with the United States government and New York State. In the 1790s, New York State overrode the treaties and allowed land speculators to take over Native American land. Today the Onondagas live on a reservation five miles south of the city limits.

Manufacturing industries then emerged on the new economic landscape. From salt mines along southern Onondaga Creek to mills in Syracuse, growth and urbanization eliminated the creek's natural floodplain. Running the entire north-south length of the city, the creek crosses major east-west corridors and extends south to the Onondaga Nation. Originally perceived as north-south by the Onondagas and first Europeans, because of Erie Canal and I-690, Syracuse is understood as east-west. After several floods in the early twentieth century, the city of Syracuse constructed concrete channels around the creek to control the waterway. Onondaga Creek became an artificial landscape. Viewed as a threat, the creek was eventually fenced off all through the city. Its landscape was inaccessible to the public. The surrounding land was not valued and became home to lower income residents and industrial buildings along the banks south of downtown. Most of the actual creek is zoned as 'vacant' land on the city's current tax parcel/land use map.



The Onondaga Creek watershed. The creek runs north through the Onondaga Nation and Syracuse.

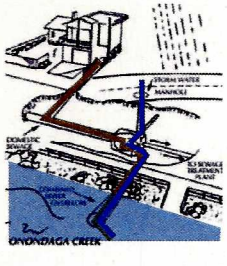
mudboils south of the city



large sewage overflow into the creek

urban ecology

Overlooked in history, the Haudenosaunee practiced remarkably sustainable land management practices. Native Americans depended on natural systems to survive, but maintained the delicate ecological balance in order to minimize the negative impacts on the physical landscape. They used the land with respect. To Europeans, Onondaga lands appeared like wilderness, but were highly developed. European exploitation brought development and industry along Onondaga Creek. The creek watershed is 115 square miles and the City of Syracuse occupies large portion of its drainage basin. Varying from 20 to 50 feet in width and only a few feet deep, Onondaga Creek has taken the brunt of the region's growth. Salt mining polluted the creek with brine and sediment from mudboils and later manufacturing industries left toxic waste and vacant brownfields behind. Urbanization of Syracuse increased water runoff, and in the late 1800s, the city began discharging raw sewage from combined sewage overflows directly into the creek. Today there are about 50 combined sewage overflows that discharge into Onondaga Creek as it runs through the city. These changes severely affected the urban ecology, destroying fisheries and vegetation. Sewage and water runoff have raised the water temperature so that creek does not freeze anymore in the winter. Citywide creek channelization in the early 1900s created strong currents. Several people fell in the creek and drowned, earning the nickname 'killer creek.' The Army Corps of Engineers also constructed a flood control dam in the 1940s in the Onondaga Reservation which altered the stream flow. Eating fish from the creek was deemed unsafe. Transformed into a dangerous sewer, Onondaga Creek ceased to function as a healthy ecosystem.



combined sewage overflows into creek

stormwater

sewage

postindustrial

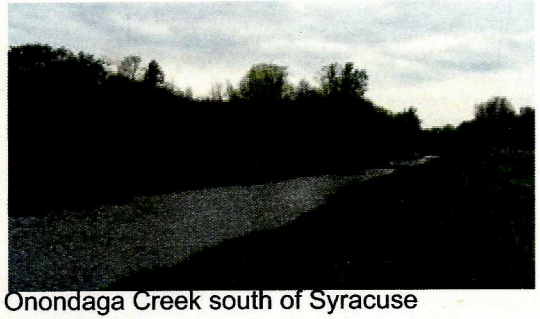
city seal, 1848

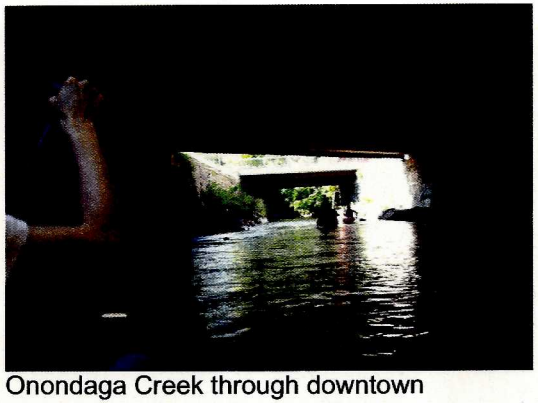
new city seal with Onondaga Lake, 1980s

Midland Ave. sewage treatment plant demonstration, 2003

In Syracuse, the postindustrial condition began once manufacturing industries moved away, starting after World War II. Up to this point, the city of Syracuse depended on manufacturing industries for its economic base. Construction of I-81 and I-690 highways fueled suburban growth and businesses and residents left the city. The decline of industrial manufacturing jobs led to increased unemployment and inner city problems of crime and poverty. Today, the situation of the creek has slowly changed with the postindustrial image of Syracuse. As with Onondaga Lake, the reclamation of waterways like Onondaga Creek is the city's attempt to remedy its industrial past. For urban identity and image, the creek and its landscape could be a place for recreation along and in the water. Significant community interest has led to proposals for the cleanup and restoration of the creek corridor. This continues the discussion of cleaning up the industrial pollution of Onondaga Lake, impacted by a century of toxic waste and sewage discharge. Most of the polluted brownfields are located northwest of the city center, near the Inner Harbor and Onondaga Lake. In the 1980s, the Atlantic States Legal Fund sued Honeywell and Onondaga County for dumping waste and sewage into Onondaga Lake. The county built a large wastewater treatment facility on the lake shore in the after the lawsuit. To further clean up the lake, the county must also clean up Onondaga Creek. The county planned a series of sewage treatment plants, called regional treatment facilities, along the creek throughout the city. Midland Avenue, a street in the city's Southside neighborhood, was the site for the first plant. The Midland Avenue sewage treatment plant, now under construction after several years of protests and lawsuits, is perceived as an act of environmental injustice. Residents believe the unwanted land use places a disproportionate burden on an already distressed, lower income minority neighborhood. The Partnership for Onondaga Creek formed as a result and continues to advocate solutions for cleaning up and reclaiming the creek. Last year, the Onondaga Nation filed a land action suit against the state of New York, claiming their lands were illegally taken in violation of government treaties. In an unprecedented case, the Onondagas seek not to reclaim land but instead cleanup of the regional landscape that was once theirs.

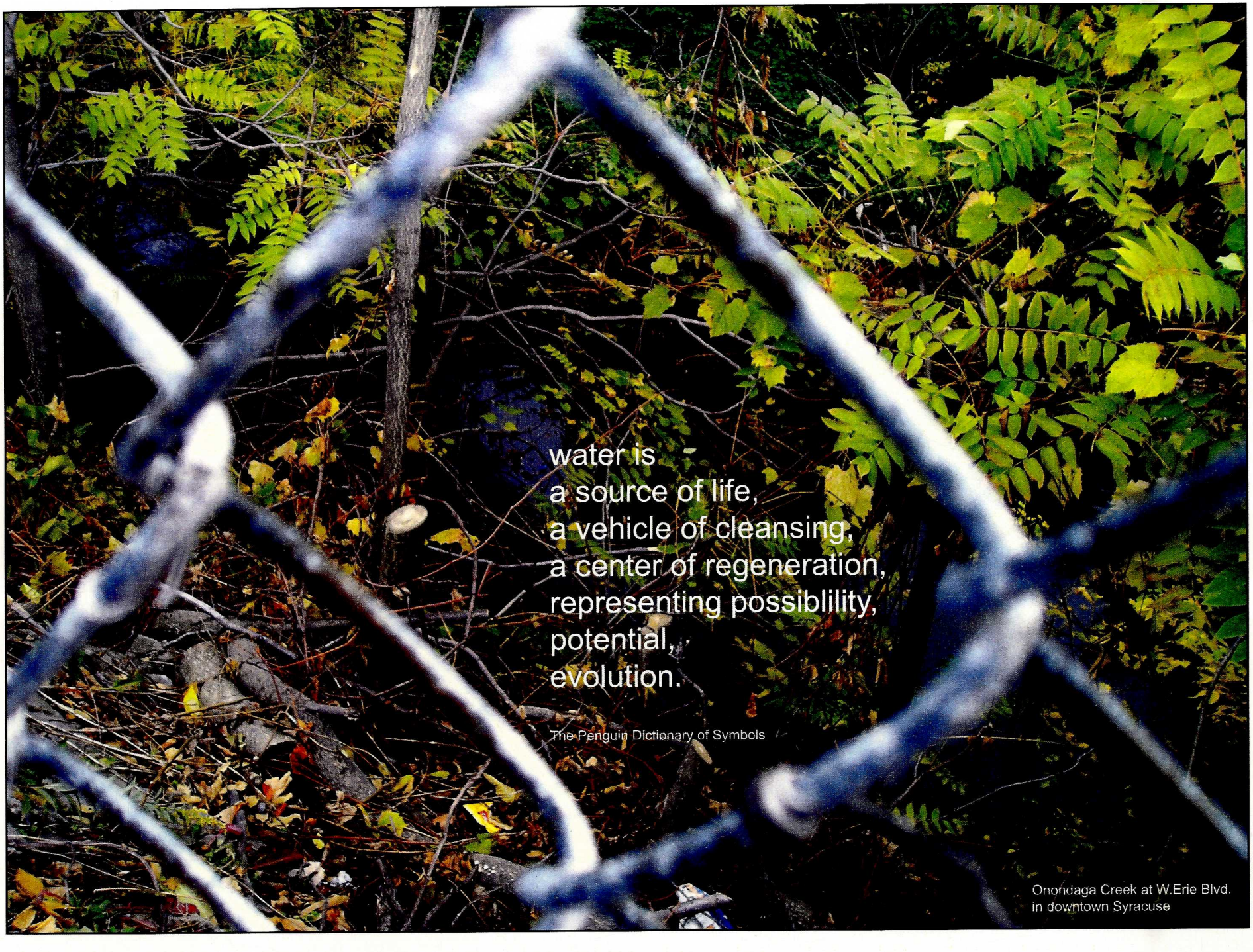
the discourse of the creek


Onondaga Creek south of Syracuse


Onondaga Creek through downtown

Fortunately, community interest in reclaiming Onondaga Creek has increased. Scheduled for completion in the summer of 2007, the Onondaga Creek Restoration Feasibility Study will be the first major public proposal for establishing a network along the creek. Sponsored by the City of Syracuse, Onondaga Environmental Institute, Cornell Cooperative Extension, Canopy, Atlantic States Legal Foundation, and SUNY-ESF, this very extensive study has a community working group, open to any area residents.

To date, the most comprehensive study of the creek is, "Onondaga Creek, A Catalytic Corridor," conducted at ESF in 2004, as a start of the current study. In a graduate studio of landscape and urban ecology, faculty and students researched the maintenance of acceptable flood conveyance and risk, improvement of stream water quality and aquatic habitat and the enhancement of natural structures and functions. Primarily focusing on ecology, the study considers urban geographies considered as well. With a strictly landscape design view, the design proposals concentrate on minor details, such as signs, pavers, sculptures and vegetation. There is no broad programmatic design, nor any suggestions for architecture. In the introduction to the study, Emanuel Carter, professor of landscape architecture at SUNY-ESF, considers the importance of the creek in relation to the regional landscape, design opportunities, urban connections and social effects.[32] Onondaga Creek is one of the larger connections to regional water systems, in between the Appalachian foothills and Lake Ontario Plain. The creek enables an understanding of natural processes and cultures in history and evolution of Syracuse and Central New York. Reestablishing Onondaga Creek as a corridor will contribute to a reorientation of landscape, reflecting the north-south orientation of region's watersheds. A creek network could provide circulation, public space, education and display. At a larger scale, the corridor could be part of a regional connection to the proposed Onondaga Lake Trail system. As a unified public space, a creekside network could also reverse the effects of discrimination in Syracuse, ending the perception of landscape quality becoming directly related to race and/or ethnicity.[33]


water is
a source of life,
a vehicle of cleansing,
a center of regeneration,
representing possiblility,
potential,
evolution.
The Penguin Dictionary of Symbols
Onondaga Creek at W.Erie Blvd.
in downtown Syracuse

mapping

In order to understand the large scale of the creek network, extensive urban mapping is necessary.
The maps produced aim to analyze existing physical and social conditions along Onondaga Creek and its surrounding area. This analysis will enable the thesis project to respond to and influence the existing spatial and demographic conditions.
The mapping process began with analyzing the physical programmatic conditions along the creek which increased in specificity. Color coded program maps and sectional diagrams resulted from examining existing maps, site photographs and aerial photographs. After viewing the entire city, imits were set where little spatial or program variation exists, along most of the southern part of the urban area.

Program analysis shows various land uses along Onondaga Creek. Initial general nodes from maps became more specified after looking at high resolution aerial photographs as well as actual site visits. This process corrected many errors in the city's tax parcel/land use map, which labels Onondaga Creek as gray, 'vacant' land. The final map of color coded programs is overlaid onto recent high resolution aerial photographs. The creek's winding course became stretched into a straight band, representing program along both creek sides. This abstraction technique allows a more immediate, continuous view of program relationships. The final goal was to locate areas of program and spatial relationships along the creek.

Social mapping of Onondaga Creek followed a similar method. Geographic Information System (GIS) software provided a visual data analysis of recent demographic information, such as population density, racial populations and income levels. This information is organized by city census tracts. As with the initial program analysis, these demographic maps became stretched, which allowed a direct correlation with the program bands. The final goal was to locate stressed urban areas in need of assistance, reflecting the neglected history of the creek and its immediate residents.

sections

widened creek

Franklin Square

I-690 bridges

Armory Square

railroad bridge

Armory Square
parking lot

Byrne Diary
plant

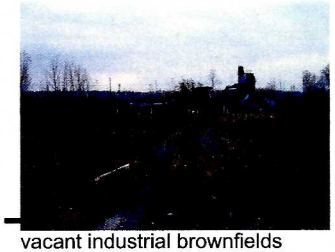
Centro bus
garage

Southside
houses

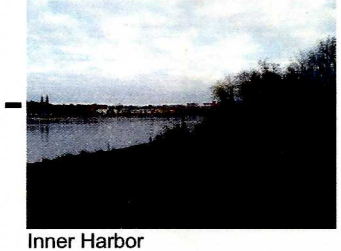
Kirk Park

lower Kirk Park

existing program

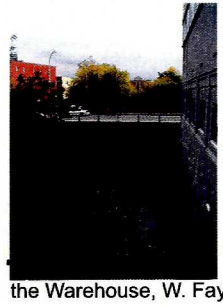


vacant industrial brownfields

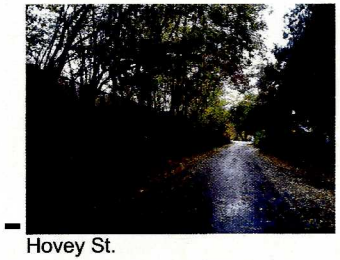


Inner Harbor

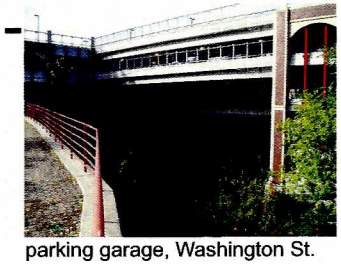
I-690 overpass



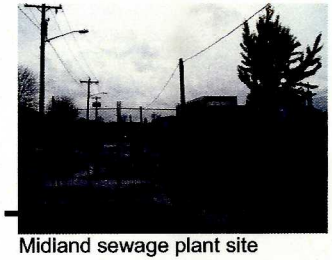
the Warehouse, W. Fayette St.



Hovey St.



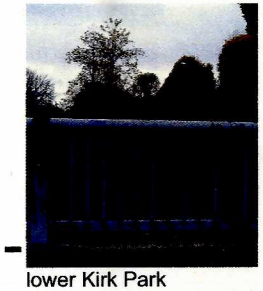
parking garage, Washington St.



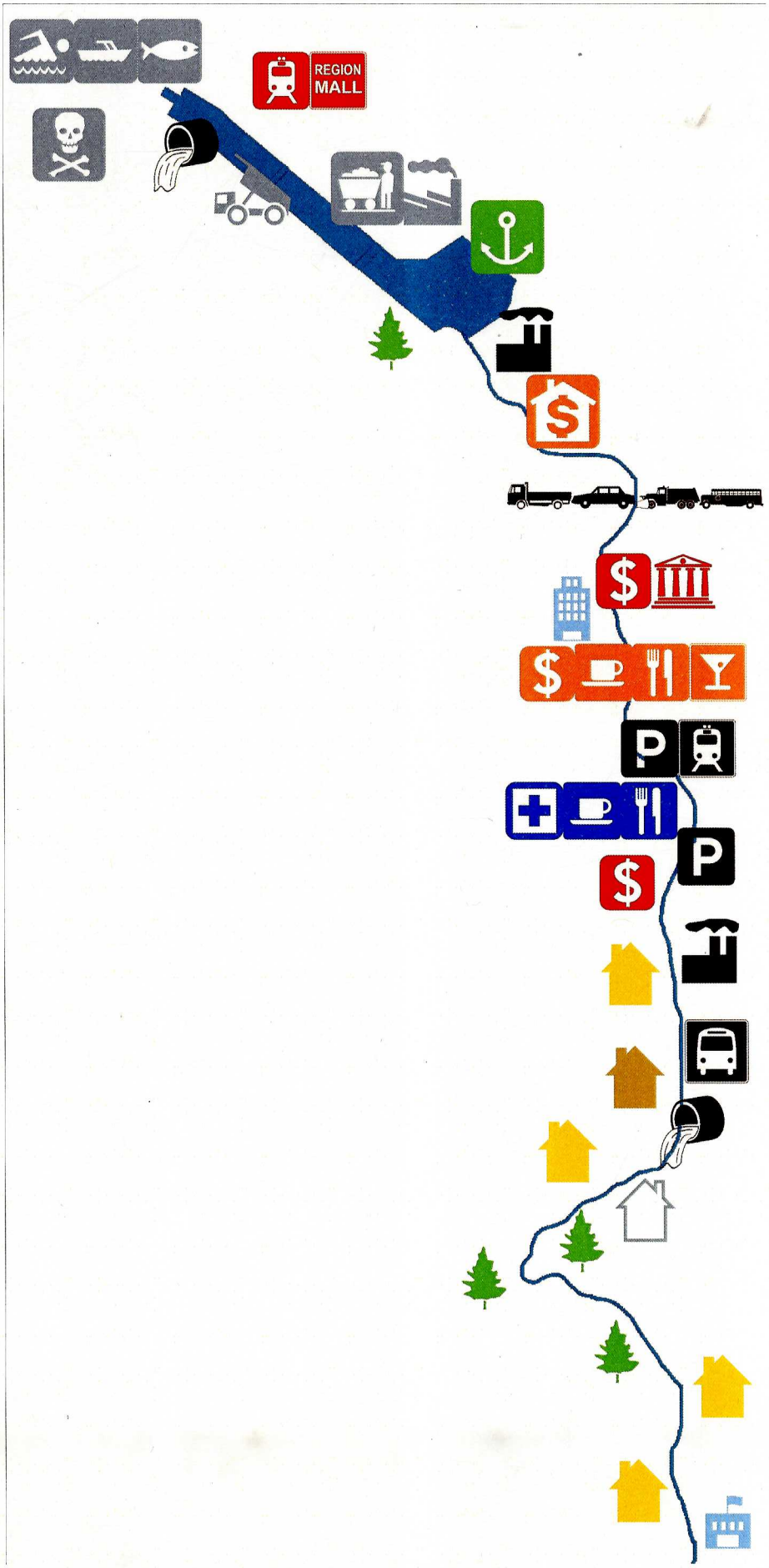
Midland sewage plant site

Kirk Park

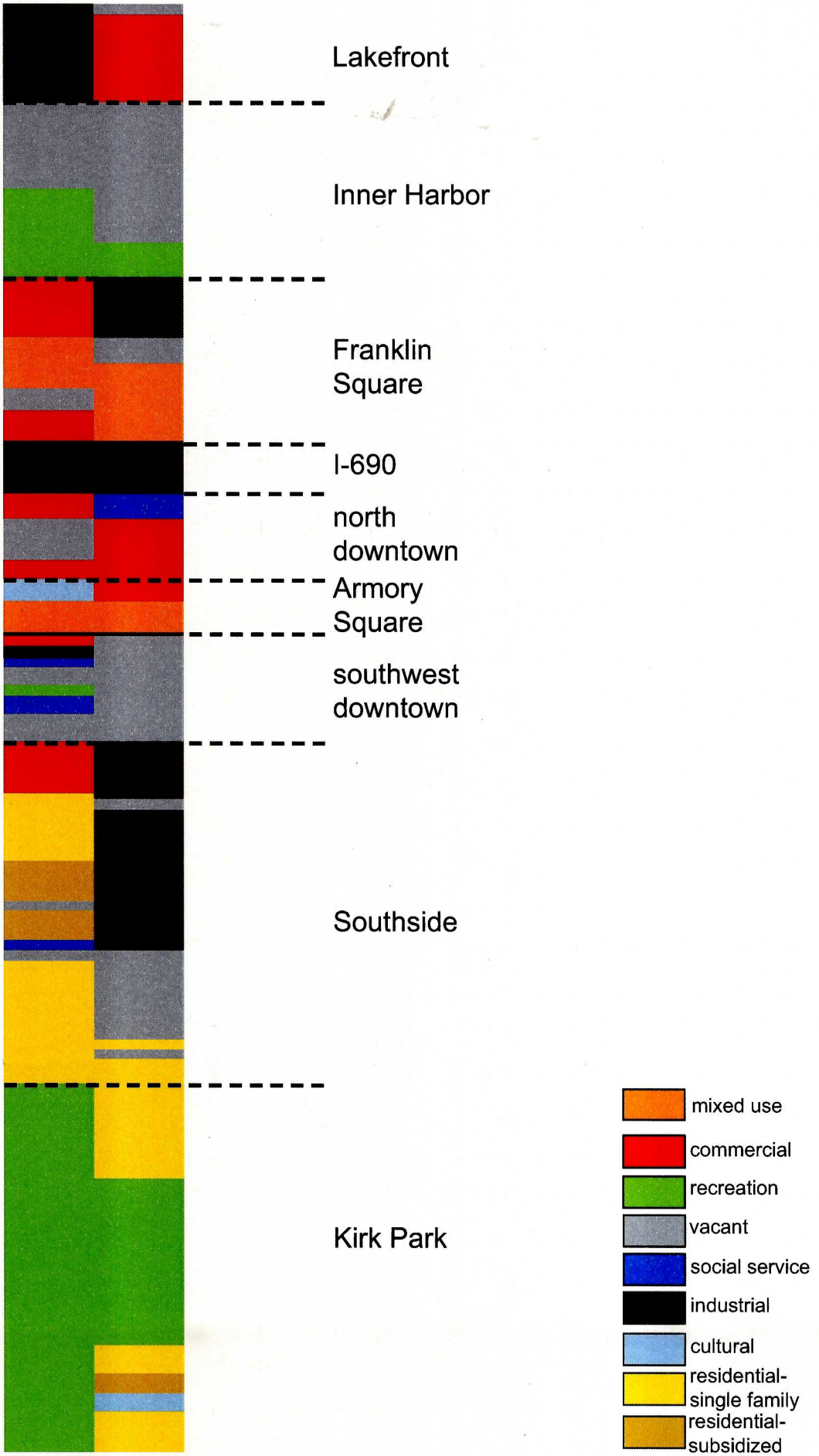
adjacent to Midland plant site



lower Kirk Park


REGION
MALL
mixed use
commercial
recreation
vacant
social service
industrial
cultural
residential-
single family
residential-
subsidized


Lakefront
Inner Harbor
Franklin Square
I-690
north downtown
Armory Square
southwest downtown
Southside
Kirk Park
mixed use
commercial
recreation
vacant
social service
industrial
cultural
residential-single family
residential-subsidized


Lakefront
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Kirk Park
mixed use
commercial
recreation
vacant
social service
industrial
cultural
residential-single family
residential-subsidized

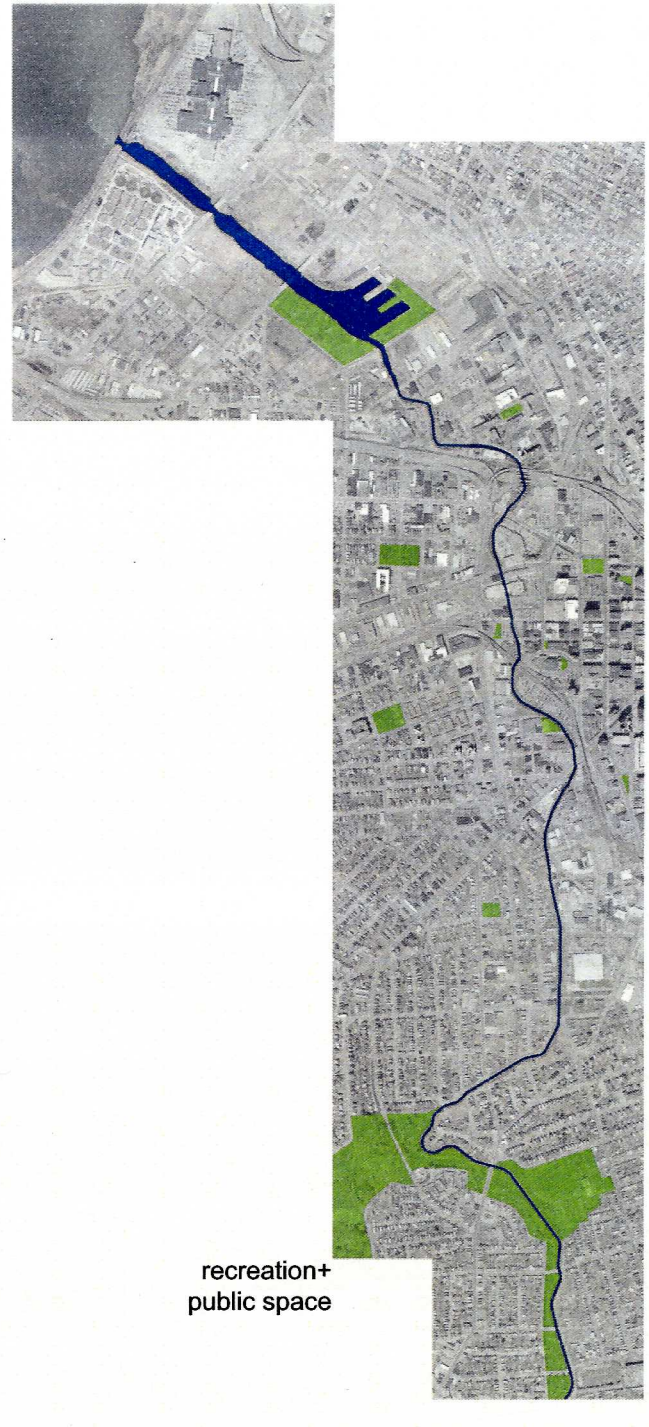
residential+
mixed use

commercial+
mixed use

transportation
infrastructure

industrial+
infrastructure

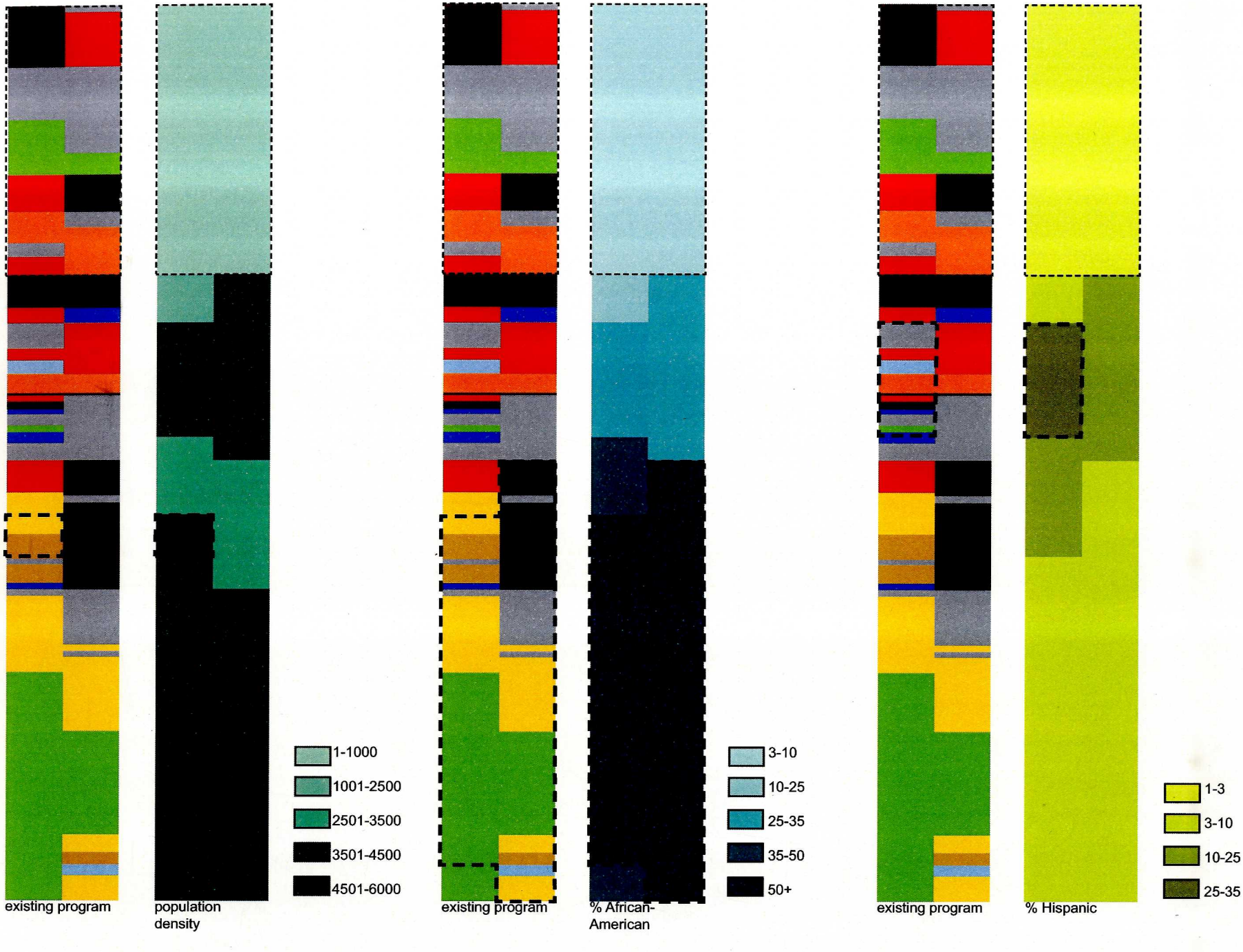
religious
institutions

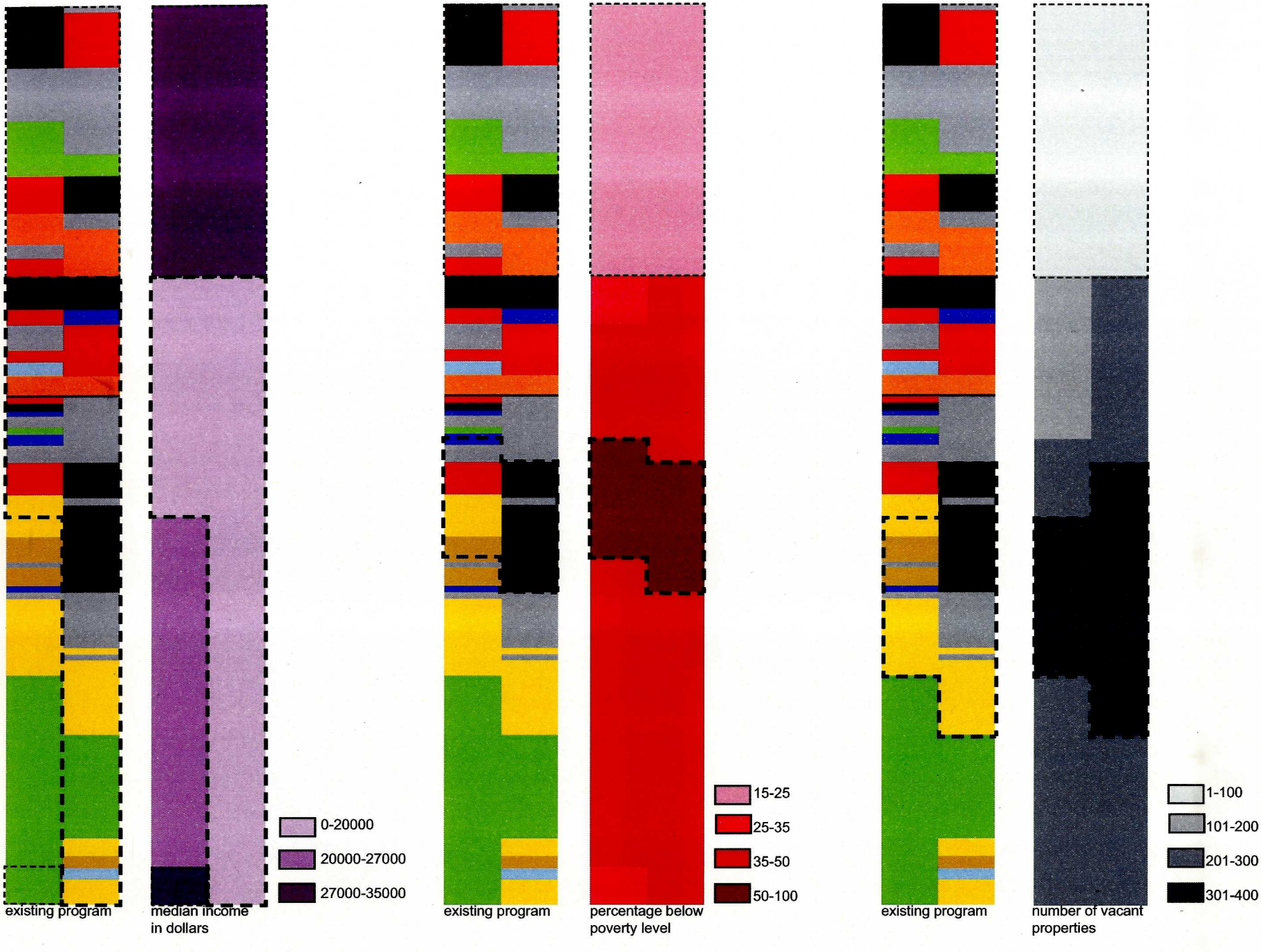


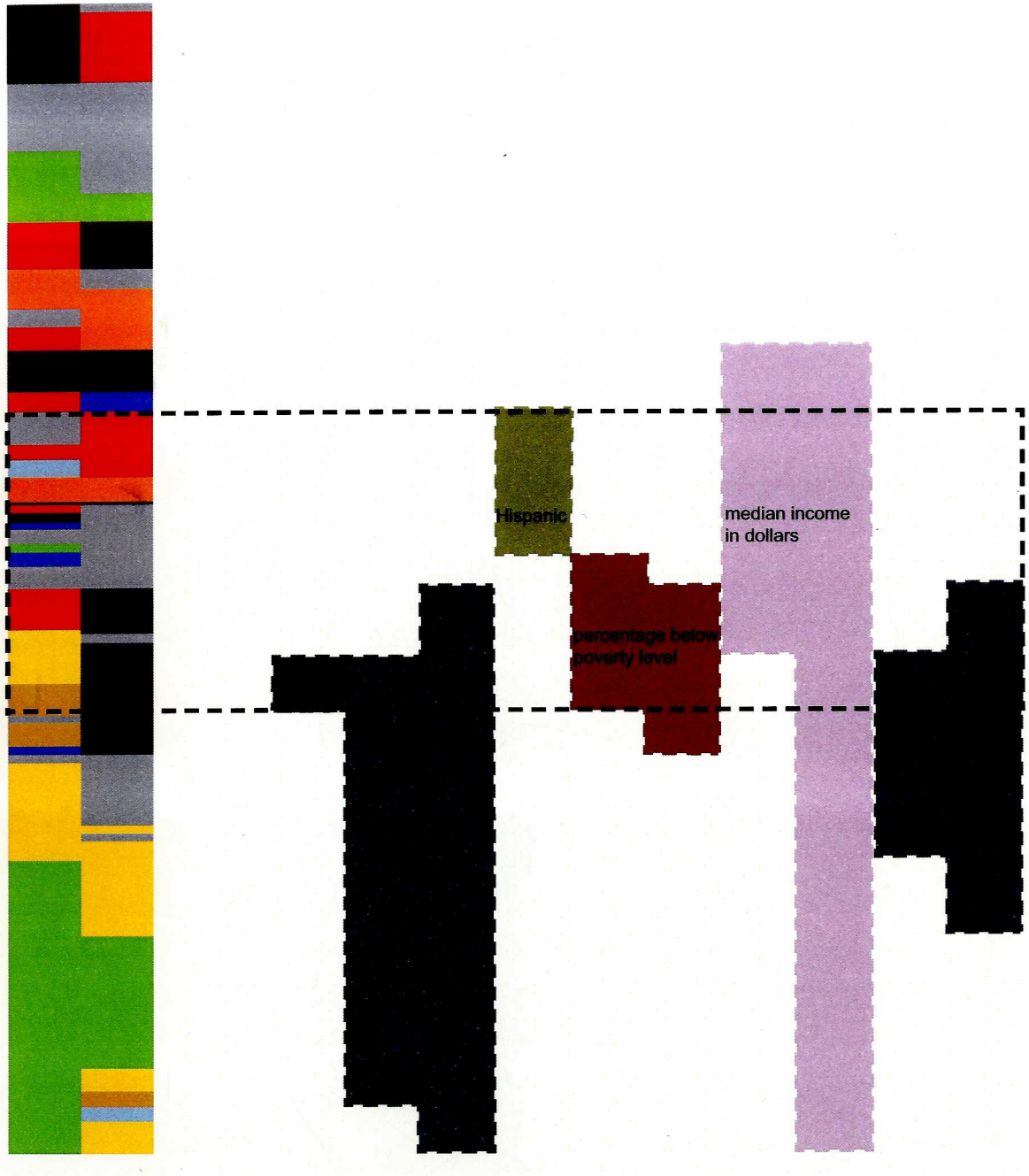
recreation+
public space

cultural institutions

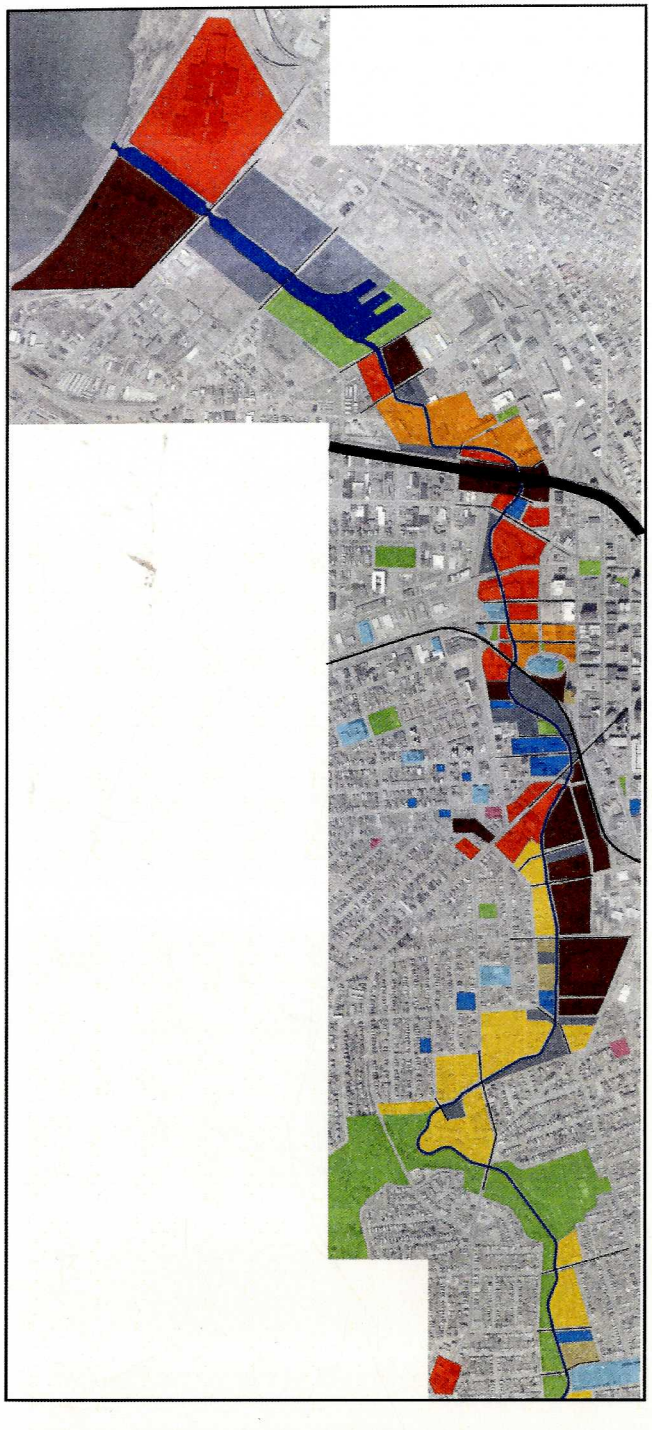
social services


existing program
population density
1-1000
1001-2500
2501-3500
3501-4500
4501-6000
existing program
% African-American
3-10
10-25
25-35
35-50
50+
existing program
% Hispanic
1-3
3-10
10-25
25-35

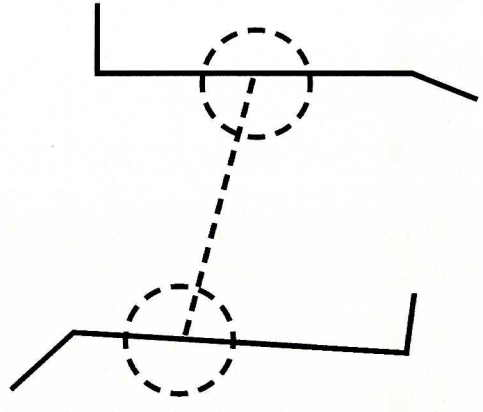

existing program
median income in dollars
0-20000
20000-27000
27000-35000
existing program
percentage below poverty level
15-25
25-35
35-50
50-100
existing program
number of vacant properties
1-100
101-200
201-300
301-400



The area of most demographic change occurs north of Kirk Park to the boundary of I-690.
Most of the population in this relatively dense area is either African-American or Hispanic, is low income and also below the poverty line.
The diagram shows the locations of the highest amounts of these conditions.
Adjacent program analysis indicates a large amount of vacant land, significant industrial development and subsidized housing.
This blighted urban area has very few places for gathering or recreation and is isolated from downtown Syracuse.



networks



In order to propose locations for architectural intervention, existing nodes and connections must be analyzed within the creek network. Program that spreads out from crossing the creek will be mapped to determine what new program will bring users to and across the creek. The next step is determining a new system of program along the creek, responding to and affecting the existing conditions.

W. Brighton Ave. network

W. Brighton Avenue connects commercial district with high school, lower Kirk Park greenway

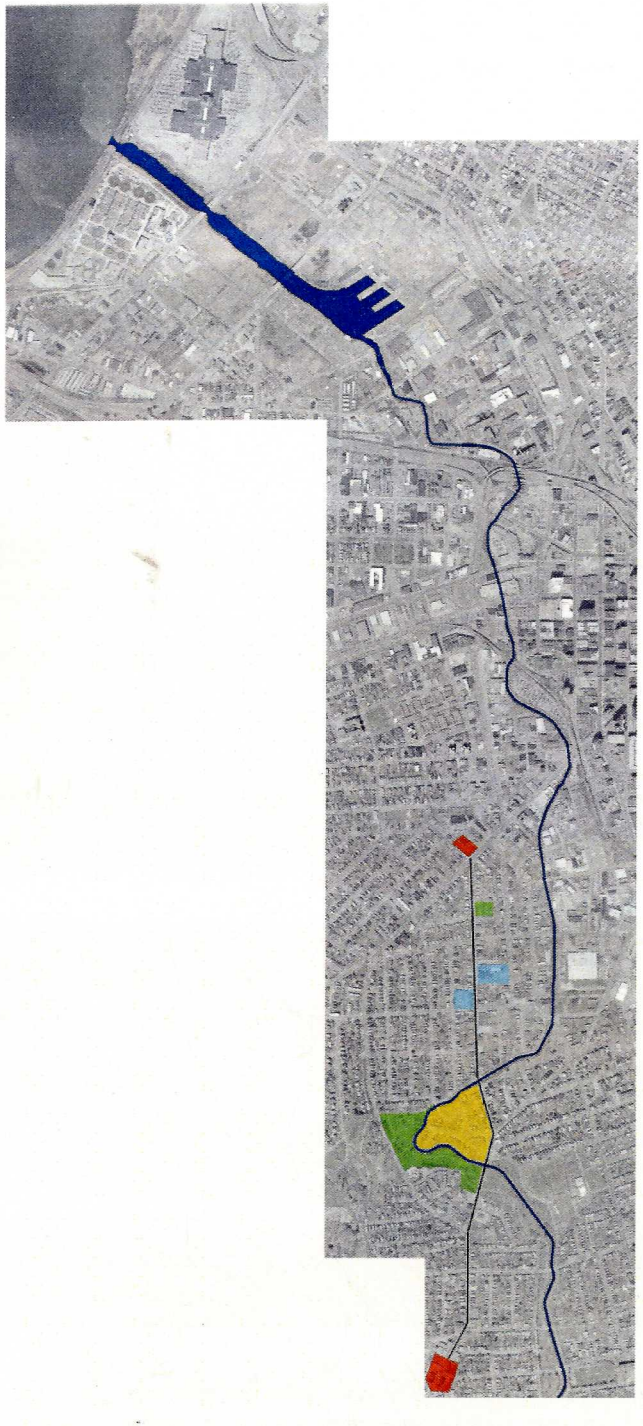
- along creek, which is fenced off
- school and the park meet at intersection of the road and creek.

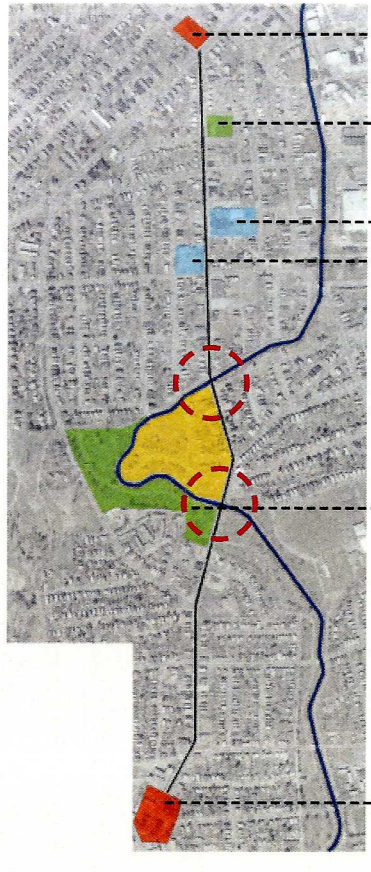
programs of the high school with athletic fields and a track and the Kirk Park corridor along

proposal of recreational trails

- for biking along creek, park
- walking and running culminate at high school track
- continue on to commercial district

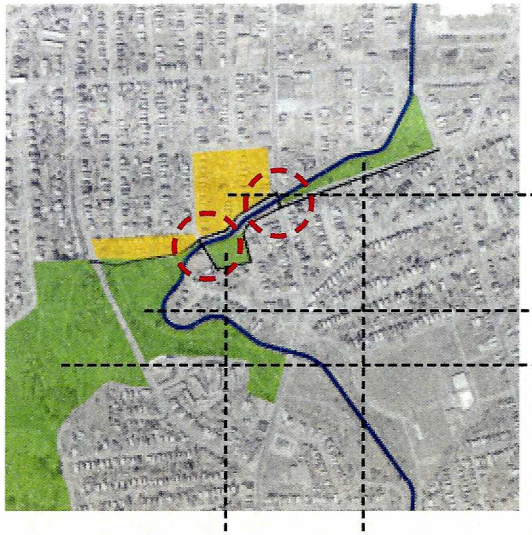
South Ave. network





most large scale of networks
links residential area, commercial districts, community services, Kirk Park
intersects with Onondaga Creek twice
connections to park for surrounding possibility for more connective trails
-routes to community center and commercial areas

W. Castle - Hovey St. network



Hovey St., on western side, one of few streets to run directly along Onondaga Creek
- like a trail
- area filled with vacant lots

insert series of connected public spaces
- link the residents to Kirk Park, up to Onondaga Park.

two large vacant areas along creek
- offer large area of access to water
- rectangular area for large community garden, flexible field for activities
- linear strip along creek
  - boat and canoe launch
- opportunity to use creek's water

Midland Ave. network

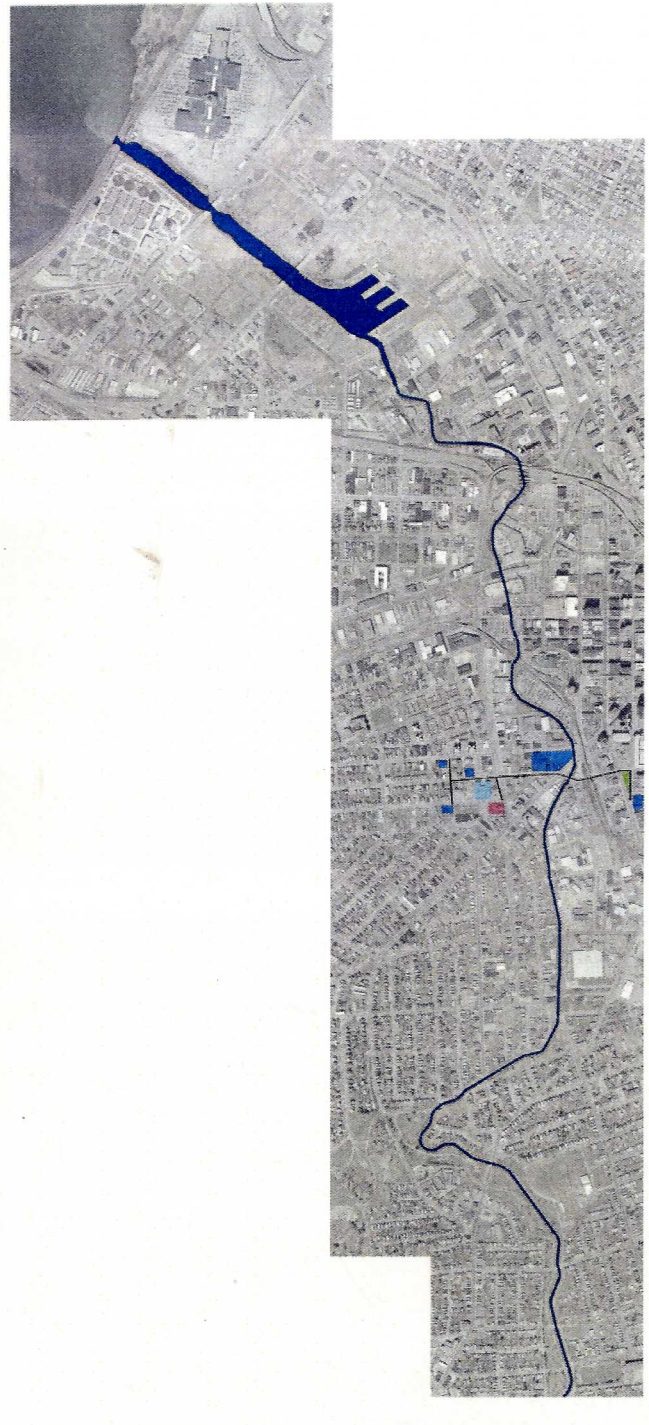
Midland Avenue diagonally crosses creek
relatively dense variety of different program
- community centers
- homeless shelter
- Midland Avenue Regional Treatment Facility
- church

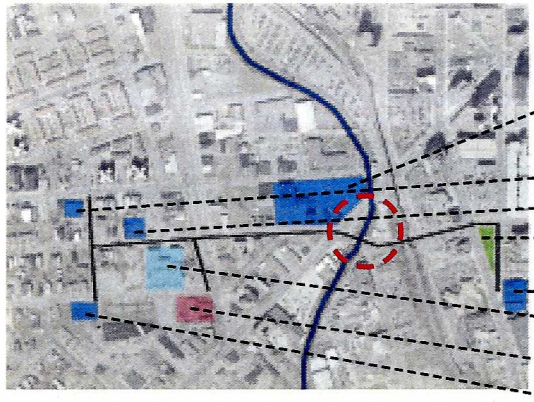
most controversial element - treatment facility
- sewage plant, currently under construction
- sited on a former neighborhood park

re-creation of park
- place of memory and education adjacent to the facility
- replace lost park
- commemorate community's struggle

spanning both sides of the creek
- new connection for disrupted community

West Adams St. network





network of **social services**
- health centers and homeless shelter
- school, Boys & Girls Club, church

evidence of social problems

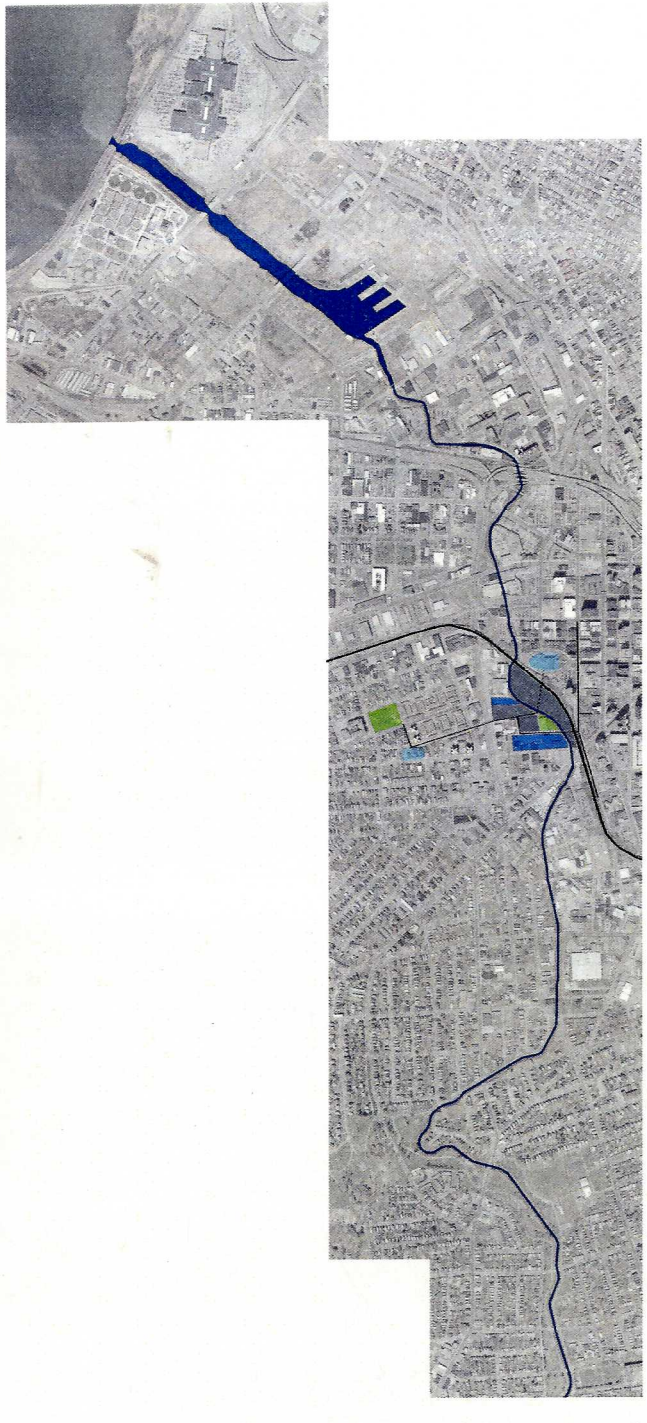
W. Adams crosses the creek
- adjacent to railroad tracks
- near major intersection with W. Onondaga St.
- triangular site bordered by transportation

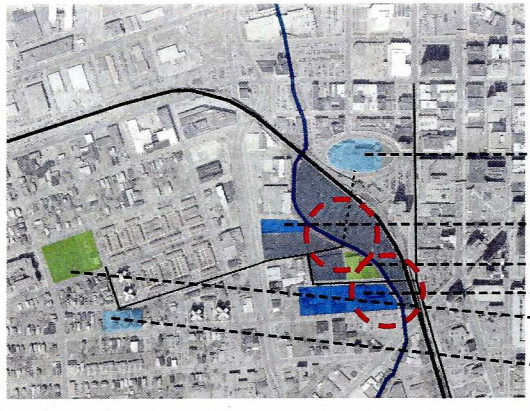
link services to the creek
- mediate heavy vehicular traffic

connection to OnTrack train line

several intersections

West Ave.-downtown network





area of **transition**
from downtown to Southside and Westside
few direct connections to downtown
not spatially dense
- blocked off by elevated railroad line

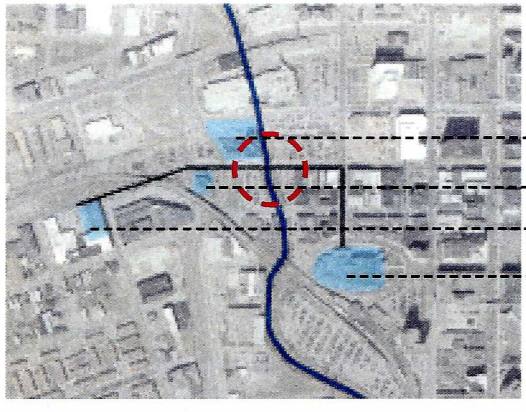
social issues
- adjacent homeless shelter and public housing across West St.

large vacant lots along the creek
- next to recreation center
- Armory Sq. lot adjacent to MOST
- highest amount of direct access along Onondaga Creek of all networks

access to creek, recreation center, services
- consolidation of services into a center
- direct creek access
- from West St.
- from Armory Square, SW downtown

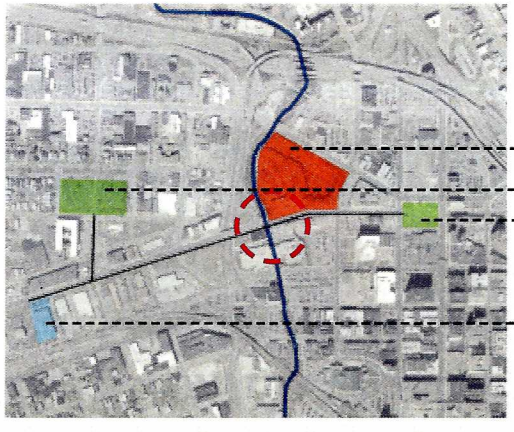
mediate traffic on West St.
bridge creek to connect to downtown
- abandoned rail bridge on site

E. Fayette St. network



connective network of **culture**
links Museum of Science and Technology to SU School of Architecture (The Warehouse), performing arts theater (RedHouse), to art gallery and studios (Delevan Center)
little access to the creek
- parking lot across the Warehouse
network of art
- public art installations along the creek
  - sculpture, Earthworks
- represents identity
public spaces for public, artists, SU students

W. Erie Blvd. network



network of social and physical **energy**
Clinton Square
- public activities, festivals

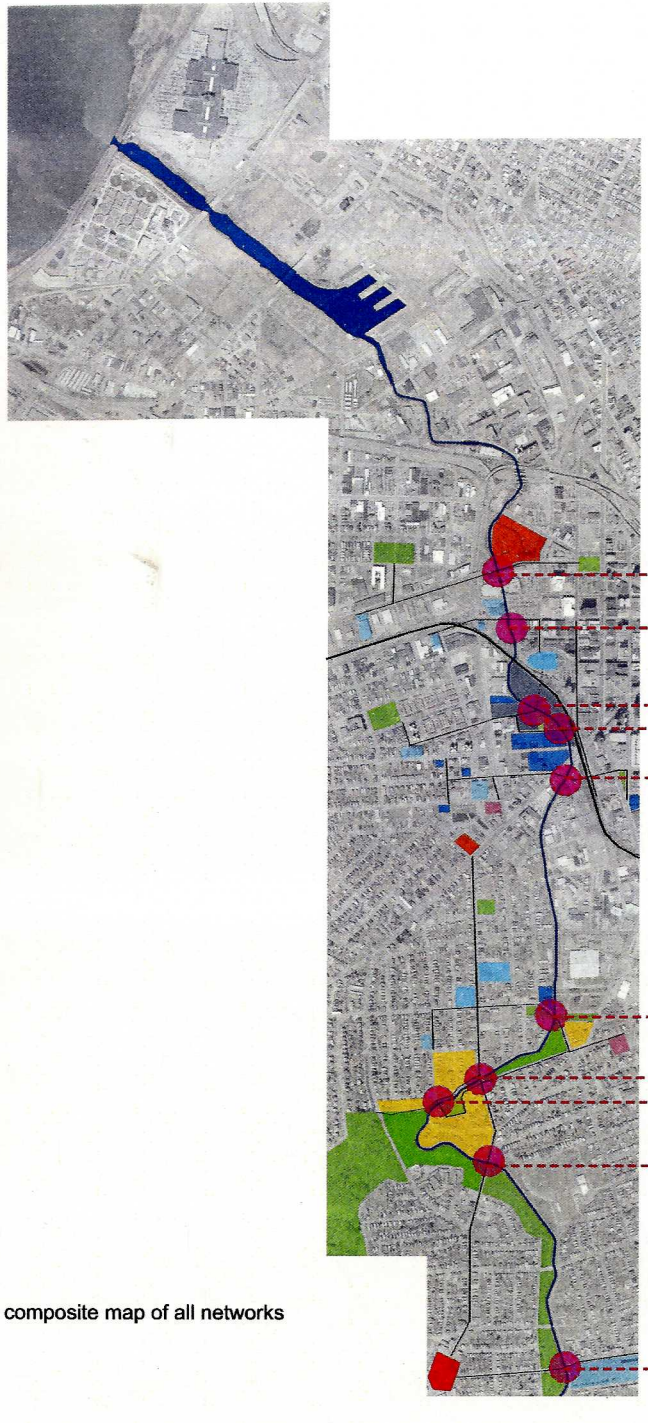
Niagara Mohawk power company
- building constructed over the creek

NYS Dept. of Conservation
neighborhood park to the north
connects public spaces with institutions
at creek, condition of Niagara Mohawk building
- sectional opportunities
- integration with building
  - educational facility

network program proposal

The proposed program is to design a general large scale network adjacent to Onondaga Creek which will connect existing program networks to each other along the creek. The suggested programs resulted from the physical and social mapping processes of the urban areas near the creek.
This program operates at two scales. After establishing the overall connective network, a specific node was chosen for more detailed architectural development.

network program proposal



composite map of all networks

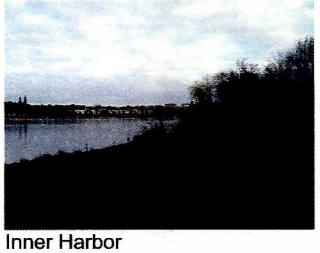
considering the existing conditions of:

these programs are proposed:

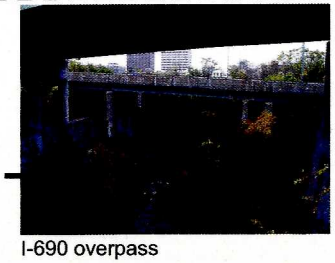
- energy — educational facility
- students — bicycle parking
- art — exhibition space: indoor + outdoor
- vacancy — creek access
- services — service connections
- traffic — public transportation
  pedestrian bridges
  creek access
  circulation trails
- re-creation — commemorative park
  ecological study facility at sewage plant
- water access — canoe, boat launch
- green network — urban gardens
  park connections
- recreation — active trails
  athletic center
- school facilities — athletic center
  educational facility

existing program

vacant industrial brownfields

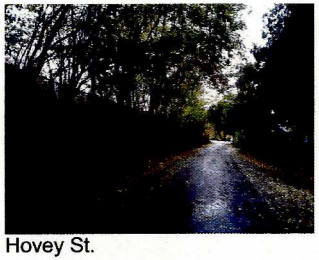


Inner Harbor

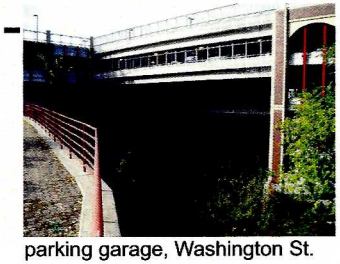


I-690 overpass

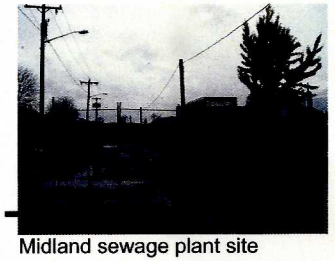
the Warehouse, W. Fayette St.



Hovey St.



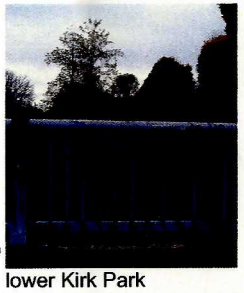
parking garage, Washington St.



Midland sewage plant site

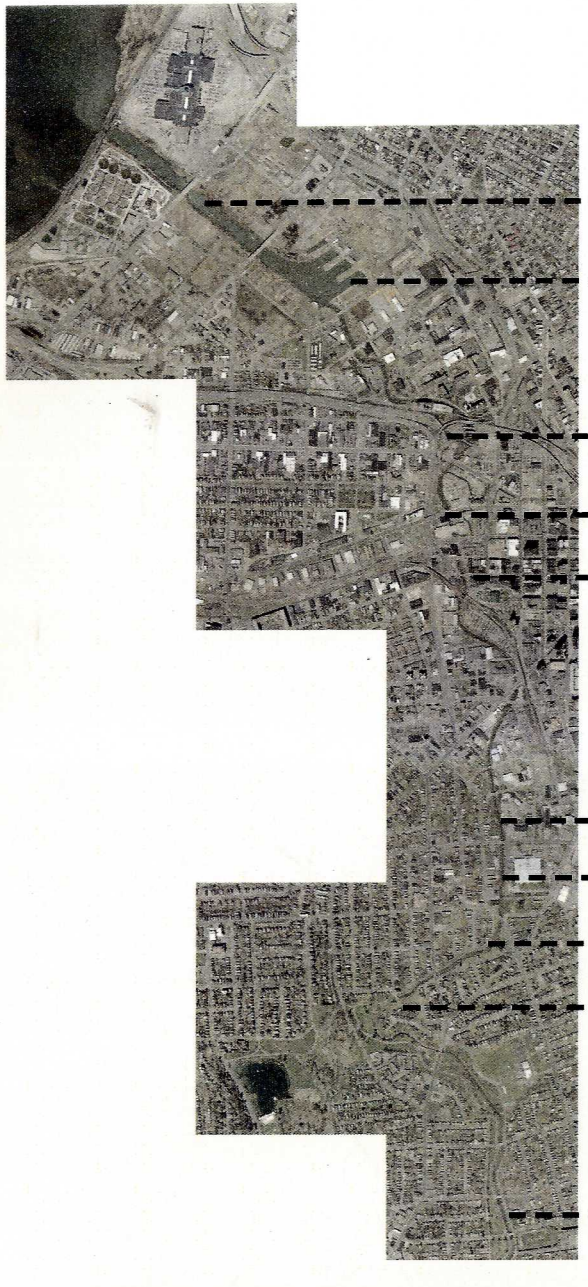
Kirk Park

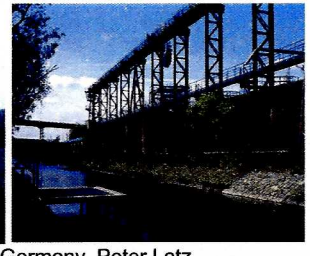
adjacent to Midland plant site



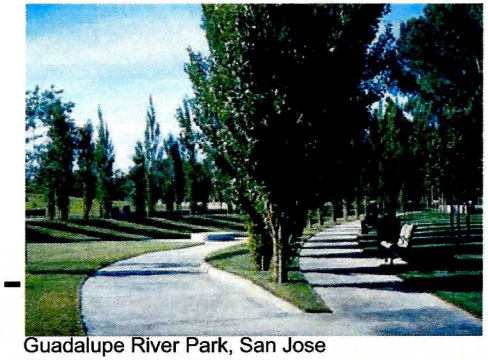
lower Kirk Park

proposed program



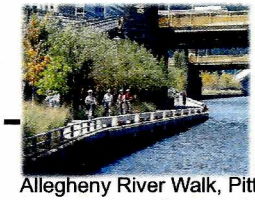


Landschaftpark Duisburg Nord, Germany_Peter Latz

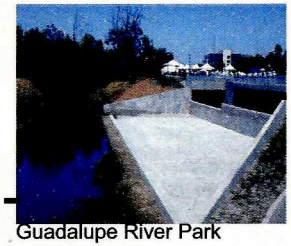


Guadalupe River Park, San Jose
Hargreaves Associates

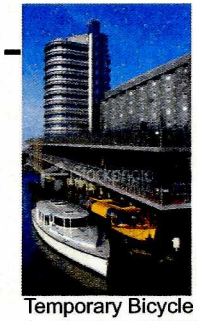
Bagby Sabine Park, Houston



Allegheny River Walk, Pittsburgh
Michael Van Valkenburgh

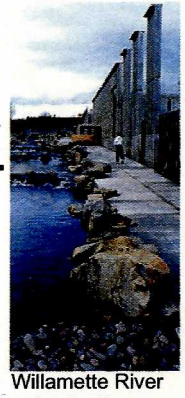


Guadalupe River Park



Temporary Bicycle Shed
Amsterdam_VMX Architects

water treatment facility, Munchen, Germany
Bolles + Wilson



Willamette River
water facility
Portland, Oregon
Miller-Hull

urban garden, Toronto_Alex Wall

FastFerry, Rotterdam_DaF Architecten

specific site

West St.

S. Salina St.

The proposed specific site for a node along the creek is part of the West St.-downtown network. The site is on a large vacant lot surrounded by streets on three sides, branching off West St. and S. Salina St. A smaller pedestrian path runs along the right edge, almost up to the abandoned rail bridge. Faced with traffic and access on almost all sides, this site has potential to connect several areas to each other. The site also has a significant amount of creek access.

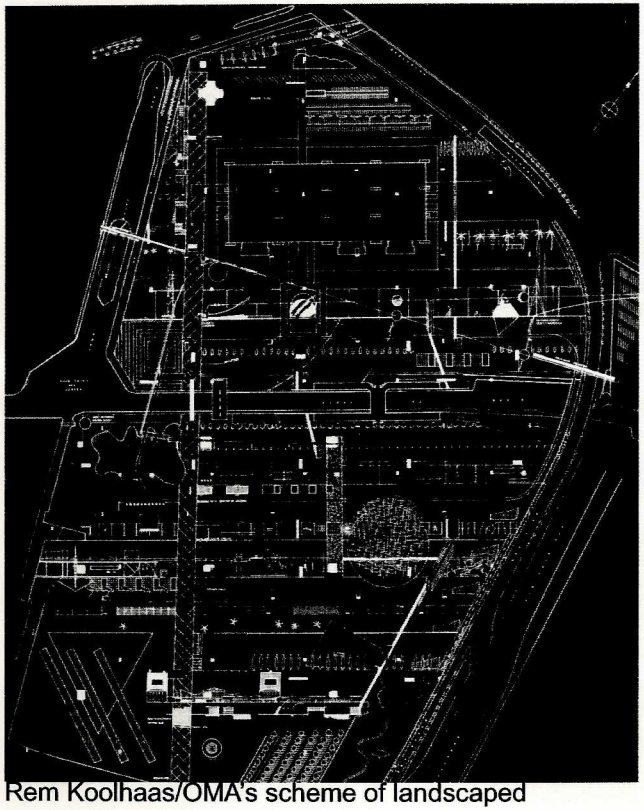
Parc de la Villette

Bernard Tschumi, OMA/Rem Koolhaas

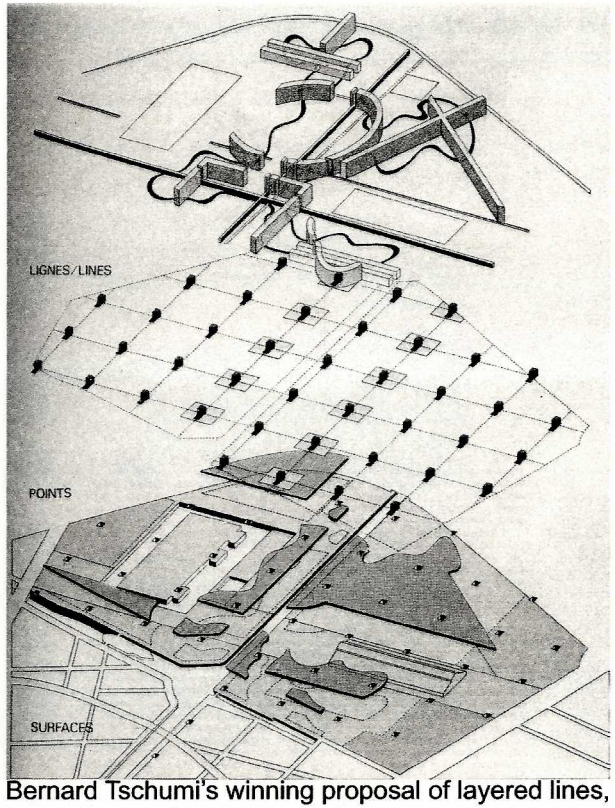
Paris, France (1983)

On the former site of the largest slaughterhouse in Paris, the Parc de la Villette projects clearly illustrate how architecture and design can negotiate and redefine the postindustrial urban landscape. At La Villette, landscape becomes the framework for a transformation of what was once part of the working city. The large scale of the project required the articulation of relations between urban infrastructure, public events, and indeterminate urban futures. The design competition brief sought to create an 'urban park for the 21st century.'

Unlike traditional conceptions of a city park, the proposals from Tschumi and OMA result in open-ended, flexible designs. Layered, non-hierarchical and strategic, they enable a horizontal field that accommodates a variety of urban activities and program.



Rem Koolhaas/OMA's scheme of landscaped programmatic bands and strips.



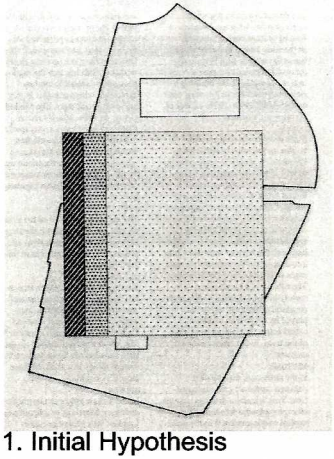
Bernard Tschumi's winning proposal of layered lines, points and surfaces

Parc de la Villette

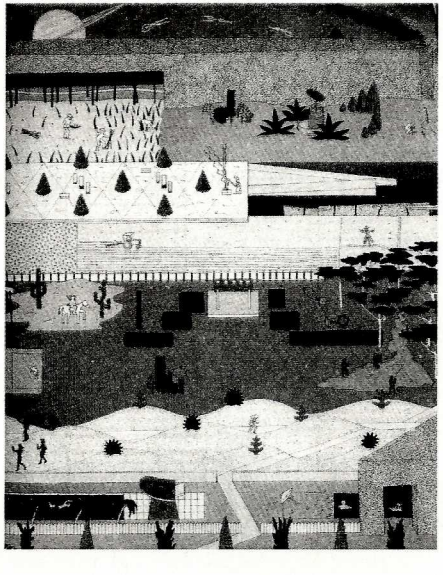
OMA/Rem Koolhaas

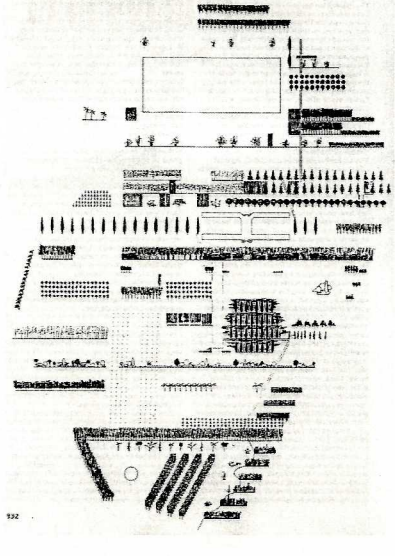
'The site of La Villette is too small, and the program too large, to create a park in the recognizable sense of the word....the program of Parc de la Villette acts like a dense forest of social instruments across the site.' - Rem Koolhaas

Developed in four strategic layers, the primary organizing element is the repetition of parallel strips of synthetic and natural surfaces. OMA's bands are strips of juxtaposed landscape and program. The 'confetti' grid contains large and small service points and kiosks. Circulation paths transect the park and provide access to the 'final layer,' a series of large landscape objects, both already existing and proposed. The quality of the project would derive from the uses, juxtapositions, and adjacency of alternating programs over time. A flexible framework is set up to accommodate an indeterminate, unpredictable range future uses and possibilities. By considering natural landscape as design, nature is also a program, with OMA's trees and gardens acting as a stage set for the park's activities. Offering both design and flexibility through organizational strategy, OMA insisted 'that at no time that we have presumed to have produced a designed landscape.'



1. Initial Hypothesis

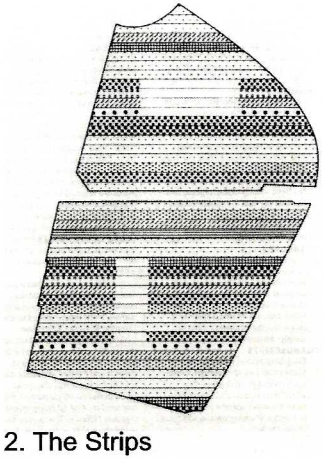




The program of the park is not definitive and will change and adjust over time. OMA's design sought to combine archtectural specificity with programmatic indeterminacy, allowing for flexibility and modification. Seeking to 'orchestrate the most dynamic coexistence of activites and to generate reaction of new events,' OMA's concept designs a 'social condenser.'

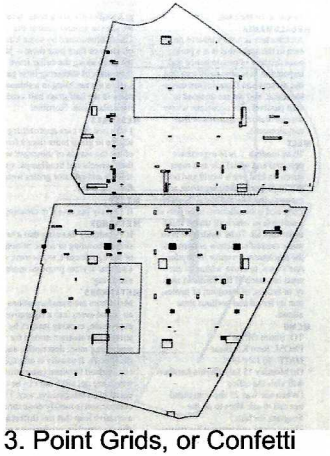
Parc de la Villette

OMA/Rem Koolhaas



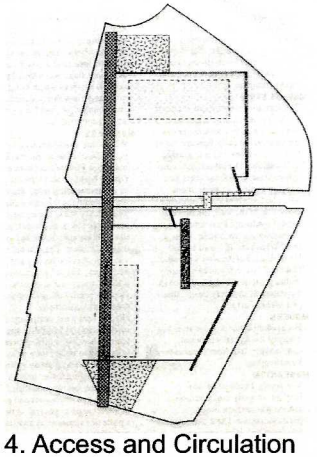
2. The Strips

The whole site is subdivided in a series of parallel bands that can accommodate zones of major programmatic categories, such as gardens and playgrounds. The strips are based on standard dimensions divisible into increments. Not an abstract composition, the distribution of the bands responds to characteristics of the site. The parallel borders enables maximum permeability and the maximum bumber of programmatic mutations.
This superimposed layering is similar the organization of a high rise building.



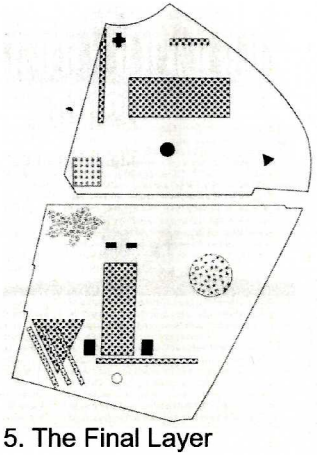
3. Point Grids, or Confetti

Point grids are the small scale elements scattered across the site like confetti: kiosks, playgrounds, bars and picnic areas. Distribution is based on desirable frequency. The point grid elements will acquire and influence the character of their different zones and bands. As random clusterings, they achieve unity through fragmentation.



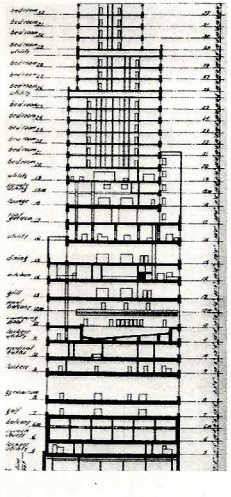
4. Access and Circulation

Two major elements provide access and circulation: the boulevard and promenade. Running north to south, the boulevard connects to major sites adjacent to the park. The boulevard's complement, the promenade is designed from the interaction of the bands. Elements like small theaters, skating surfaces, seating, tables, greenhouse are destinations along the promenade's sequence. Where the promenade opens and closes with the park, the boulevard is the major 24 hour part of the program, like an outdoor arcade.

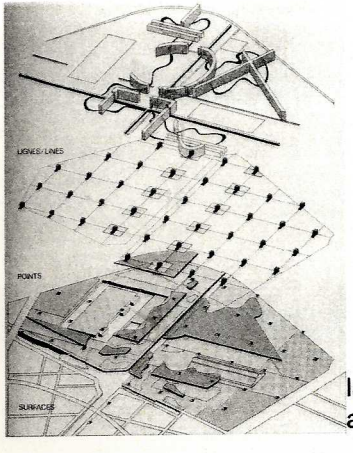


5. The Final Layer

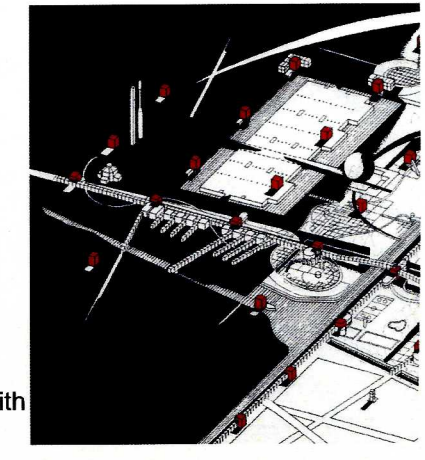
The final layer is the composition of major existing elements which are too unique or large to be located within a system. As objects, these elements define boundaries within and along the park.



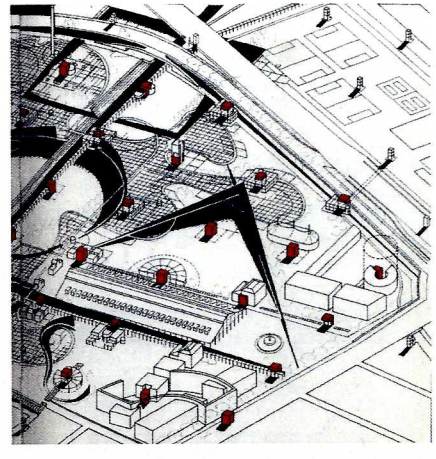
Parc de la Villette
Bernard Tschumi

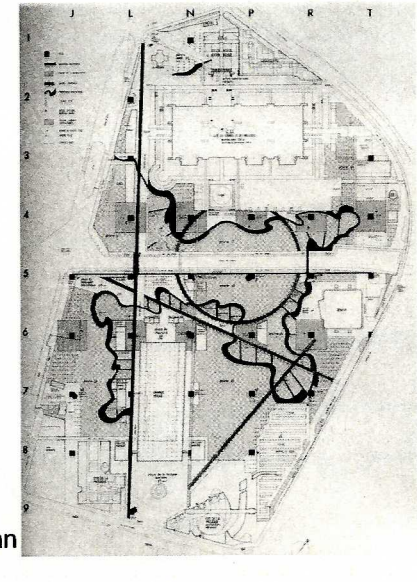


layered lines, points and surfaces



program layout with grid of follies





final plan

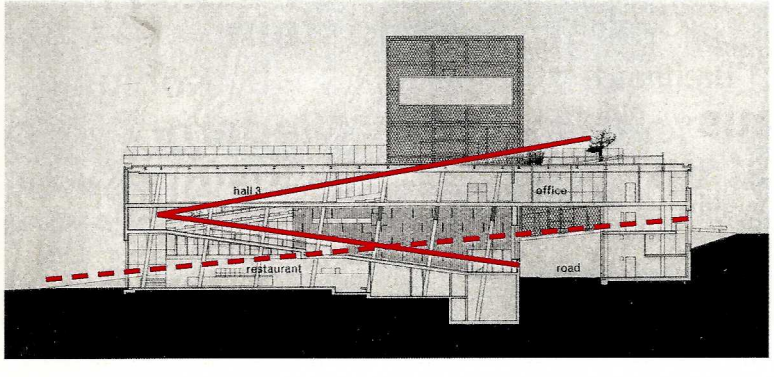
The winning design by Bernard Tschumi also incorporates the idea of accommodating programmatic change over time. Tschumi's description of the project as the 'largest discontinuous building in the world,' illustrates the landscape urbanism principles of elements as parts of larger interconnected networks and systems. To stage the 'cinematic landscapes,' Tschumi used superimposition and combination. Parc de la Villette is a palimpsest of three primary organizing layers: lines, points and surfaces. The lines are circulation, the points are a series of follies and the surfaces are the programmatic areas of the landscape.

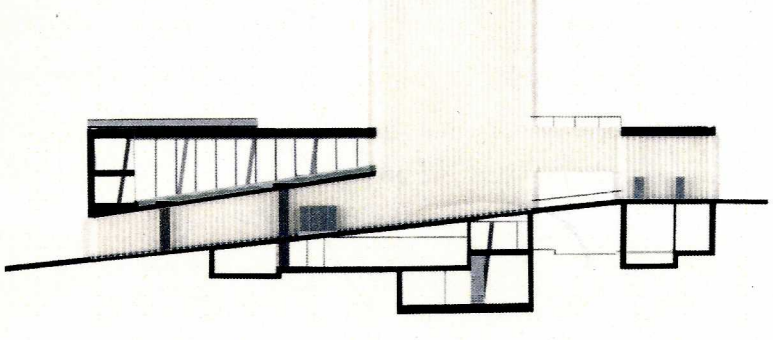
By suggesting places of activity and interaction rather than proposing a rigid construction, Tschumi's design is similar to OMA's. Vegetation is planned to define areas, like OMA's strips, and the grid of red follies resembles the point grid or confetti system. The follies are more ordered than OMA's confetti, but still maintain an ambiguous relationship with the landscape. As structures but not finished buildings, the follies accommodate flexible programs of cultural invention, education and entertainment, becoming truly flexible public space.

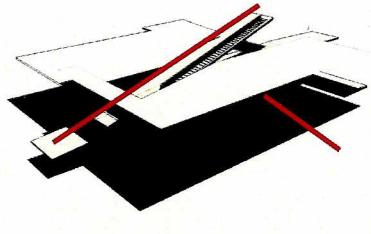
Kunsthal

OMA/Rem Koolhaas

Rotterdam, The Netherlands (1993)



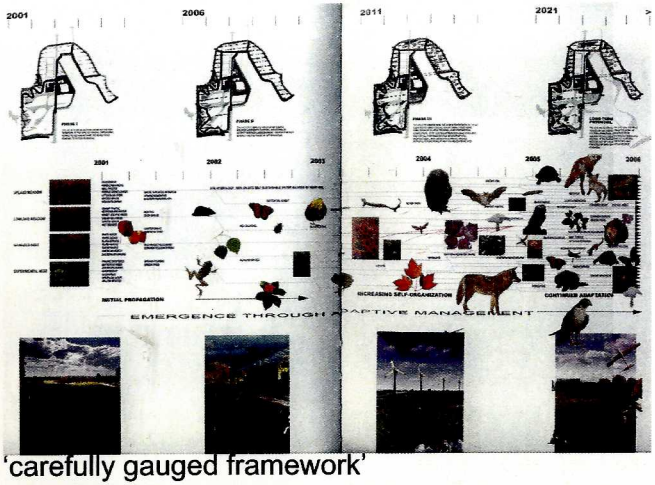




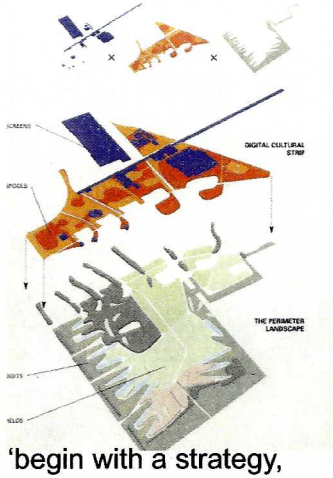
At the architectural scale of the building, the Kunsthal in Rotterdam is a microcosm of landscape urbanism, designed at multiple scales.

In the main circulation ramp, there exists a simultaneity at the scales of architecture, city and landscape. From the city, the ramp is main entry to park; the Kunsthal is a portal. Circulation continues straight through down to the park entry. As a bridge over the dike, it responds to the regional Dutch landscape. This allows a service road to run underneath the ramp. Architecturally, the museum presses program density against the ramp, which is also the organizing structure of the museum. The ramp folds over itself to become an entry, overlook, threshold, room and roof garden. According to Linda Pollak, this follows Lefebvre's principle of scales, that each scale is nested within the others.* More than just a circulation element, the ramp functions as a connective, flexible network physically and conceptually linking architecture and the urban landscape.

Downsview Park
Toronto, Canada (2000)



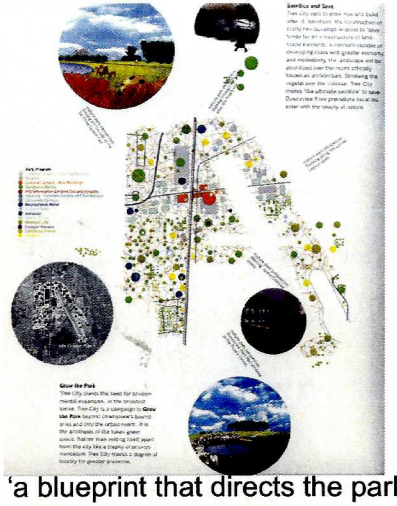
'carefully gauged framework'
James Corner and Stan Allen propose evolving ecologies over time to form the landscape.

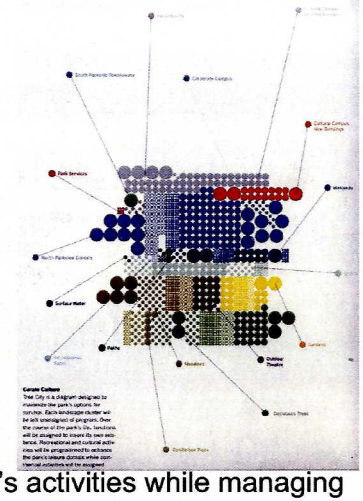


'begin with a strategy, never with a form'
Bernard Tschumi considered modern digital culture against natural landscape.

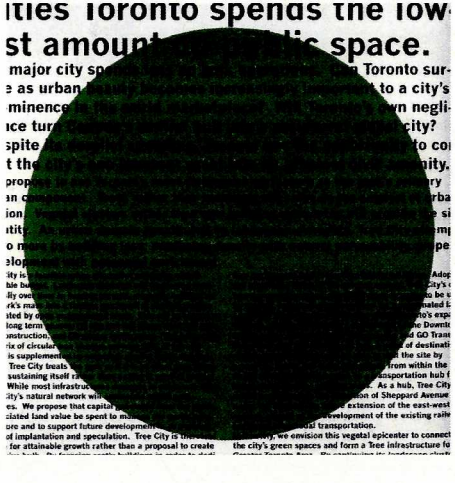
Similar to the Parc de la Villette competition, Downsview Park commissioned an urban landscape to evolve over time: an park designed in three phases over fifteen years. Time rather than space is valued as a generator for activity and form. On the site of a former Canadian military airbase, the competition entries privilege framework over form, engage complex processes like ecology, and expand interdisciplinary practices.[34] The competition entry brief's intention stated to inaugurate and structure the transformation of the site while remaining opoen to change and growth over time,' 'cope with and indulge' the complexity of contemporary ecological thinking, encouraging the creation of 'new ecologies,' and rethinking conventional disciplinary boundaries. Traditional architectural practice cannot solve these issues alone. Designs faced issues of performance and appearance in landscape, how they work and look.

Downsview Park
Toronto, Canada (2000)





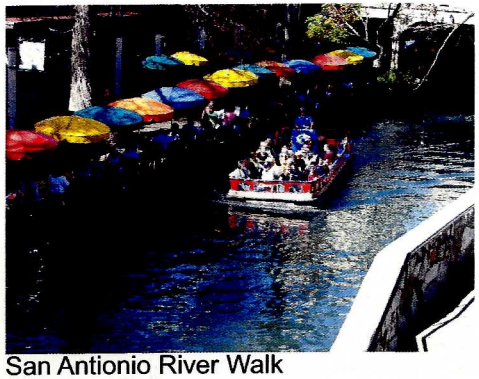
'a blueprint that directs the park's activities while managing its own growth' (OMA)



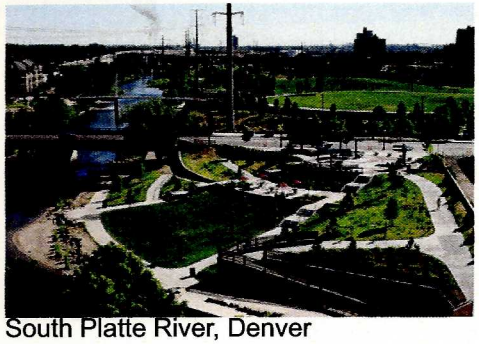
OMA's winning design, 'Tree City,' was also the most controversial. Critics labeled it too imaged based and media friendly, a grahpic design rather than an architectural one. While OMA proposed a schedule of programmatic and ecological development for the site, the representation is simply a series of colored circles; the level of detail in the other proposals is not reached. Don Mitchell, head of the SU Geography department, wrote that Tree City is the most pessimistic design. Designing control over interaction, dispersal over congregation, appearance over performance and emphasizing consumption, OMA and Koolhaas constructed the park as open space instead of public space.* He states that public space involves having democratic control over that space and allowing a space to host sometimes contentious publics. The public, not the architect, produces their own cultures and their own public spaces.

urban waterways

San Antionio, Texas and Denver, Colorado



San Antionio River Walk



South Platte River, Denver

Probably the most similar example to Onondaga Creek at the scale of the waterway is the San Antonio River Walk. One of the earliest examples of urban waterway revitalization, the River Walk began in the 1950s. The River Walk is on the level ground plane on the riverbanks, leveled as a result of channelized flood control. Over the following decades, the River Walk developed into pedestrian circulation promenade with water access and commercial shops along. Despite the postindustrial emphasis on consumption and entertainment, the River Walk's outdoor spaces remain public. Even the mall's shops open up onto the street. The private investment still allows for a large public space and circulation network.

The restoration of the South Platte River in Denver, Colorado placed prioritized ecology and public access over private economic investment. Another system in progress for decades, extensive recreation trails and paths constructed along river banks began in the mid 1970s. Though it is a more comprehensive network, multiple designers have participated, so there is no single author. Part of a long term plan and system, the urban trails connect to a regional network along river. South Platte has been reclaimed by the city as a natural resource. With a greater focus on ecological restoration and maintenance, the river network also accommodates the postindustrial identity of recreation and entertainment. The organization schedules riverside concerts, film screenings and annual river cleanups. Enabling full access to the water, the river itself is regularly used for boating and special gondola rides. Recently, the city demolished a power station for more public space and water accessibility. Ensuring the stability and democracy of the public spaces, the city's website states that part of the long term plan of the system provides that 'the corridor...is to be protected from impacts of political change.'

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[4] ibid. 29.
[5] Pollak, Linda. "Constructed Ground: Questions of Scale." The Landscape Urbanism Reader. Ed. Charles Waldheim. New York: Princeton Architectural Press, 2006. 136. The totality of a thing and the impossibility of understanding the thing in totality. Immanuel Kant: The sublime can be found in an object "in so far as its boundlessness is represented in it and yet its totality is also present."
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